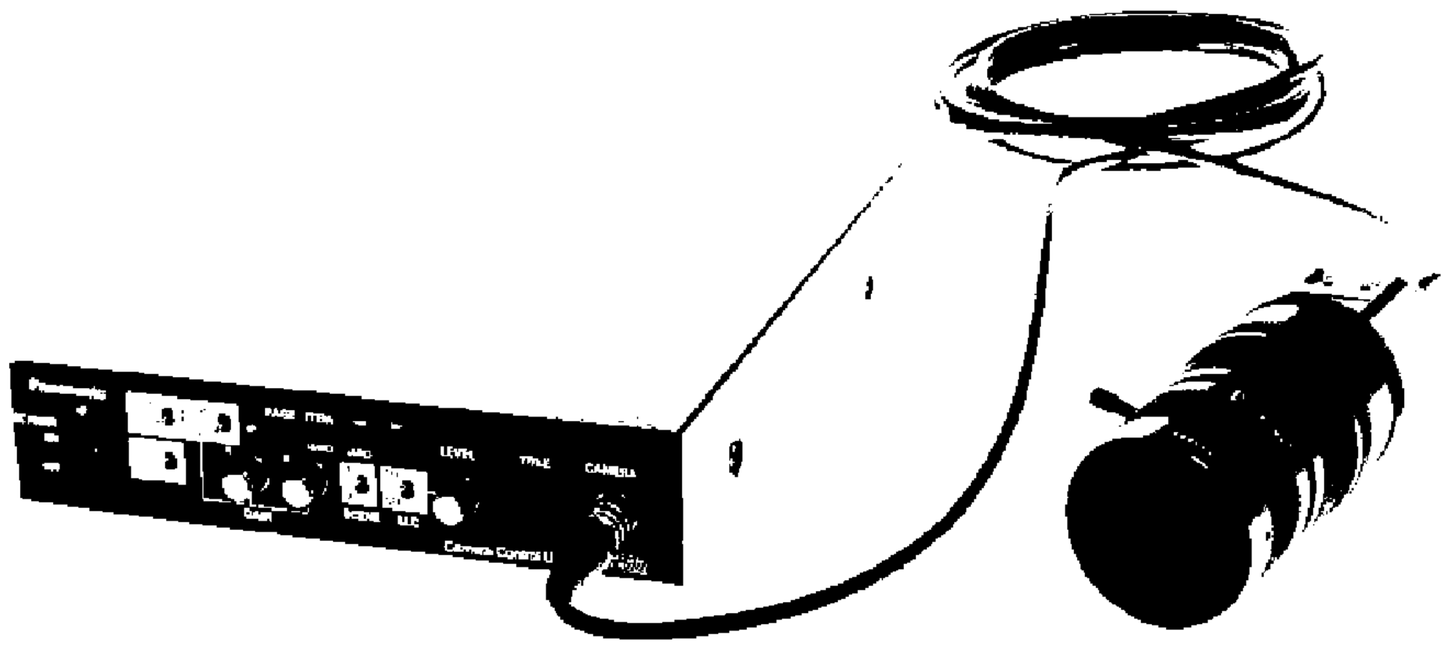
ORDER NO. AVS0005258A8

Service Manual

3CCD Colour Camera Head / 3CCD Colour Camera CCU

GP-US522HAE/GP-US532HAE/GP-US522CUAE



Lens : Purchased locally
Cable : Option

SPECIFICATIONS

Pick-up System :	Micro prism system
Image Sensor :	Three 1/2" interline transfer (IT) super high sensitivity CCDs (GP-US522HAE)
	Three 1/3" interline transfer (IT) super high sensitivity CCDs (GP-US532HAE)
Pixels :	752 (Horizontal) x 582 (Vertical)
Scanning Standard :	625 lines, 50 fields, 25 frames
Synchronizing System :	Internal or External (Gen-Lock), automatically switchable
	Internal: CCIR standard
	External (Gen-Lock) Input: VBS/VS/HD/VD is selectable
	SC Phase for Gen-Lock (VBS): Free adjustable over 360°
	H Phase for Gen-Lock (VS): Adjustable
Video Outputs :	Video Output: BNC Connector x 2
	1.0V[p-p] PAL composite/75 Ω
	Y/C (S-VIDEO) Output: S-VIDEO Connector x 1
	0.7V[p-p] Luminance level (Y)/75 Ω (S-VIDEO connector)
	0.3V[p-p] Burst Level (C)/75 Ω (S-VIDEO connector)
	RGB/SYNC Output: D-SUB 9-pin Connector x 1
	R/G/B: 0.7 V[p-p] each/75 Ω
	SYNC: 4 V[p-p]/75 Ω or 0.3 V[p-p]/75 Ω selectable
	VIDEO: PAL composite/75 Ω
Required Illumination :	2 000 lx at F11.0, 3 200 K (GP-US522HAE)
	2 000 lx at F8.0, 3 200 K (GP-US532HAE)
Minimum Illumination :	5 lx (0.5 foot candle) at F2.8 with +18 dB gain, 30 IRE level (GP-US522HAE)
	9 lx (0.9 foot candle) at F2.2 with +18 dB gain, 30 IRE level (GP-US532HAE)

Panasonic

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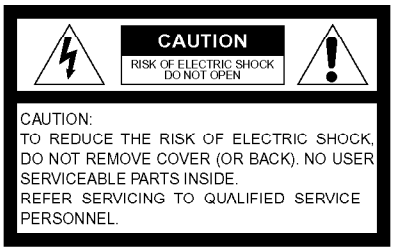
⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "⚠" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without permission of manufacture.

Signal-to-Noise Ratio :	60 dB (Typical, Luminance) without aperture and gamma
Horizontal Resolution :	800 lines at centre (Y signal) (GP-US522HAE) 750 lines at centre (Y signal) (GP-US532HAE)
White Balance :	ATW (Automatic Tracing White Balance Control), AWC (Automatic White Balance Control) and Manual
Black Balance :	ABC (Automatic Black Balance) and Manual
Colour Bar :	EBU colour bar with 0% set-up
Electronic Shutter :	AUTO: Adjustable between 1/50 - 1/10 000s STEP: Selectable between 1/50 (OFF), 1/120, 1/250, 1/500, 1/1 000, 1/2 000, 1/4 000 and 1/10 000s SYNCHRO SCAN: Selectable between 1/625 and 311/625 lines
Gain Selection :	AGC and Gain Up (Selectable)
Switches :	Power On/Off (POWER), Camera/Colour Bar Selection (CAM/BAR), Gain Up Selection (OFF/LOW/HIGH (0/+9/+18 dB)), White Balance Selection (ATW/AWC/MANU), ELC (Electronic Light Control) On/Off, PAGE, ITEM (AWC), ◄ (ABC) and ►
Controls :	R Gain, B Gain and ELC LEVEL
Computer Interface :	RS-232C : D-SUB 9-pin Connector x 1
Lens Mount :	Special C Mount (GP-US522HAE) C Mount (GP-US532HAE)
Power Source :	12 V DC
Power Consumption :	8.4 W
Ambient Operating Temperature :	0°C - +45°C (32°F - 113°F)
Ambient Operating Humidity :	30 % - 90 %
Dimensions	
Camera Head : (Excluding Mounting Adapter)	34 (W) x 44 (H) x 52 (D) mm [1-5/16" (W) x 1-11/16" (H) x 2" (D)]
CCU : (Excluding Rubber Feet and Connector)	206.5 (W) x 44 (H) x 250 (D) mm [8-1/8" (W) x 1-11/16" (H) x 9-1/2" (D)]

Weights

Camera Head :	110 g (0.24 lbs)
CCU :	1.7 kg (3.74 lbs)

Dimensions and weights indicated are approximate.
Specifications are subject to change without notice.

OPTIONAL ACCESSORIES

Camera Cable GP-CA522/4
Character Generators WJ-KB30, WJ-KB50

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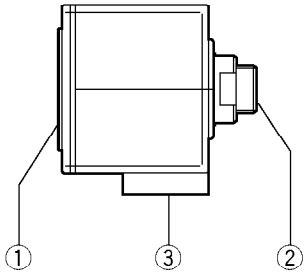
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

Camera Head

1. **Lens Mount**
   This is used to attach the special C-mount lens for GP-US522HAE and the C-mount lens for GP-US532HAE.

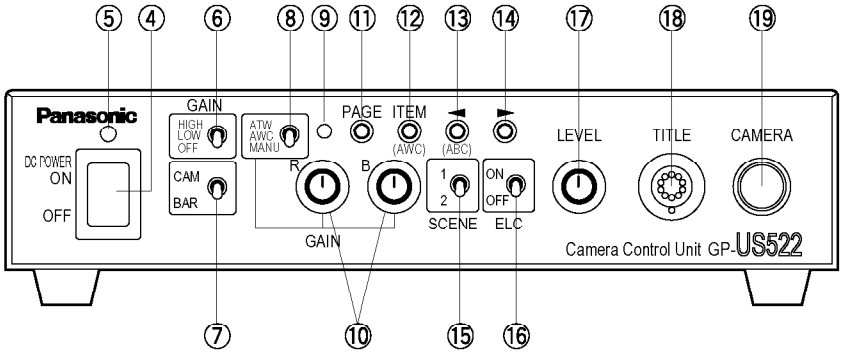
2. **Camera Cable Connector**
   This 24-pin connector is used to connect the optional camera cable GP-CA522/4 to the camera control unit.

3. **Camera Mounting Screw Hole**
   This hole (1/4" - 20) is used to mount the camera onto a mounting bracket.



Camera Control Unit

[Front Panel]



4. **Power ON/OFF Switch (DC POWER ON/OFF)**
   This switch turns the power of this unit and the power supply for the camera head on or off.

5. **Power Indicator (POWER)**
   This indicator lights up red when the power switch is turned on.

6. **Automatic/Manual Gain Selector Switch (GAIN HIGH/LOW/OFF)**
   This selector is used to select the gain of the video amplifier as follows.
   The mode can be selected in the SETUP menu.

MODE	SW POSITION	GAIN
AUTO	HIGH	Maximum +18 dB
	LOW	Maximum + 9 dB
	OFF	0 dB
MANU	HIGH	+18 dB (Fixed)
	LOW	+ 9 dB (Fixed)
	OFF	0 dB

7. Camera/Colour Bar Selector (CAM/BAR)

This selector is used to select either the video signal or the EBU colour bar signal which is output from the video output connector (VIDEO), YC (S-VIDEO) output connector or RGB (D-SUB, 9-pin) output connector.

CAM : The video signal from the camera is output.

BAR : The EBU colour bar signal is output.

Set this switch to BAR when making video monitor adjustments and recording the colour bar signal.

8. White Balance Selector (ATW/AWC/MANU)

This selector is used to select one of the following white balance modes.

ATW : In this mode, the colour temperature is monitored continuously and thereby white balance is set automatically.

AWC : In this mode, accurate white balance is obtained.

The white balance settings are as follows:

1. Aim the camera at a white chart.
2. Press the ITEM (AWC) button on the front panel to set the white balance.
3. When the auto white balance is completed, the auto warning indicator first blinks and then goes off.

If the auto warning indicator remains lit, repeat the above procedure for setting the auto white balance.

MANU : The white balance can be adjusted manually with the red gain (R GAIN) and blue gain controls (B GAIN).

9. Auto Warning Indicator

This indicator blinks while the white balance or black balance is being automatically set. This indicator lights continuously when the white balance or black balance is set improperly. In this case, follow the auto white balance or black balance setting procedure.

10. Red and Blue Gain Controls (R GAIN/B GAIN)

These controls are used to manually adjust the white balance.

These controls only work when the white balance selection switch (ATW/AWC/MANU) is set to MANU.

Turn the controls clockwise to increase the red and blue signal levels, and counterclockwise to decrease.

11. Page Button (PAGE)

This button is used to display the SETUP menu by pressing it for 2 seconds or more, and to change the parameters in the SETUP menu.

12. Item Button (ITEM/AWC)

While the SETUP menu is displayed, this button is used to move the cursor downward.

Normally, when the white balance selection switch (ATW/AWC/MANU) is set to AWC, this button is used to set the automatic white balance control (AWC).

13. Left Button (◄/ABC)

While the SETUP menu is displayed, this button is used to move the cursor to the left.

Normally, this button is used to set the automatic black balance control (ABC).

14. Right Button (►)

This button is used to move the cursor to the right in the SETUP menu.

15. Scene File Selector (SCENE)

This selector is used to select the scene files.

16. Electronic Light Control ON/OFF Selector (ELC ON/OFF)

This selector is used to select the electronic light control mode as follows:

ON : Enables Electronic Light Control (ELC) mode and disables Electronic Shutter Speed (SHUTTER) mode.

OFF : Enables Electronic Shutter Speed (SHUTTER) mode and disables Electronic Light Control (ELC) mode.

Note :

Confirm the setting of the ELC and SHUTTER parameters on the SETUP menu.

17. Electronic Shutter Speed Control (LEVEL)

This control is used to set the target value of the Electronic Shutter Speed between 1/50 and 1/10 000 seconds together with the ELC ON/OFF switch.

18. Title Input Connector (TITLE)

This connector is used to connect the optional Character Generator WJ-KB30 or WJ-KB50.

Note :

The Black and White characters of the generator are mixed with the video signal and are obtained at VIDEO OUT, S-VIDEO (Y/C) OUT and RGB/SYNC OUT connectors.

Colourization of characters is not available.

19. Camera Cable Connector (CAMERA)

This 20-pin connector is used for connection with the camera head via the optional camera cable GP-CA522/4.

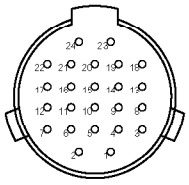
Fasten the camera cable to this connector firmly.

If not, noise may appear.

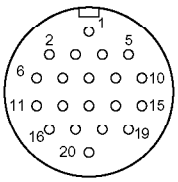
Caution:

Connecting or disconnecting the camera cable to/from the camera control unit or camera head must be done after turning off the Power of the camera control unit.

For Camera

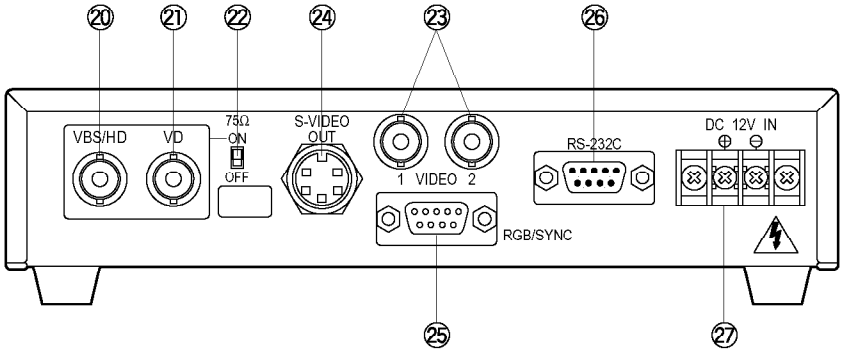


For CCU



Camera Head Side		Camera Control Unit Side	
1	+15V Input	1	Ground (GND)
2	Ground (GND)	2	Not used
3	Chip Select Input	3	Not used
4	+25 Input	4	+9V Output
5	–9V Input	5	–9V Output
6	B Signal Output	6	28MHz Output
7	RGB Ground (GND)	7	CPOB Input
8	Serial Data Input	8	RGB Ground (GND)
9	Serial Clock Input	9	+5V Output
10	CCD Select Output	10	B Signal Input
11	G Signal Output	11	Serial Clock Output
12	R Signal Output	12	VD Output
13	VD Input	13	Chip Select Output
14	CPOB Output	14	+25 Output
15	HD Input	15	R Signal Input
16	+9V Input	16	Serial Data Output
17	+5V Input	17	HD Output
18	Not used	18	G Signal Input
19	Not used	19	+15V Output
20	Not used	20	CCD Select Input
21	Not used		
22	Not used		
23	28 MHz Input		
24	Not used		

[Rear Panel]



20. Gen-lock Signal Input Connector (VBS/HD)

The colour video signal of the camera is automatically synchronized with the gen-lock signal (Composite Signal, Black Burst Signal or Video Sync) when either signal is supplied to this connector.

The gen-lock signal is used for system reference.

Caution :

If the gen-lock signal is jittery (as in the case of a VTR playback picture), the camera cannot be synchronized properly.

(External HD and VD Mode)

The horizontal and vertical pulse of the colour video signal is synchronized with the external HD fed to this connector and external VD fed to the VD input connector.

21. Gen-Lock Signal Input Connector (VD)

Supply the external vertical drive (VD) pulse to this connector.

22. Gen-Lock Video 75 Ω Termination ON/OFF Switch (75 Ω ON/OFF)

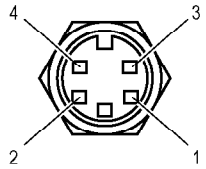
When looping through the gen-lock video signal with a BNC "T" adapter, set this switch to OFF. When not looping through, set this switch to ON.

23. Video Output Connector (VIDEO 1,2)

A 1.0V[p-p]/75 Ω composite video signal is provided at this connector.

24. S-Video Output Connector (S-VIDEO OUT)

The luminance (Y) and chrominance (C) signals for VTR or monitor are provided at this connector.

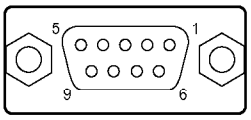


S-VIDEO OUT (Mini-DIN,4-pin)

Pin No.	Description
1	Y Ground
2	C Ground
3	Y Signal Output (0.7 V[p-p] (Y level)/75 Ω)
4	C Signal Output (0.3 V[p-p] (Burst Level)/75 Ω)

25. RGB/SYNC Output Connector (RGB/SYNC)

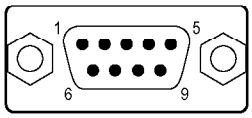
The red, green, blue, sync and composite video signals are provided at this connector.



RGB/SYNC (D-SUB,9-pin)

Pin No.	Description
1	Ground(GND)
2	Ground (GND)
3	Red (R) Output (0.7 V[p-p]/75 Ω)
4	Green (G) Output (0.7 V[p-p]/75 Ω)
5	Blue (B) Output (0.7 V[p-p]/75 Ω)
6	Composite Video Output (1.0 V[p-p]/75 Ω)
7	Sync (SYNC) Output (4.0 V[p-p] or 0.3 V[p-p]/75 Ω)
8	Ground (GND)
9	Ground (GND)

26. RS-232C Connector (RS-232C)

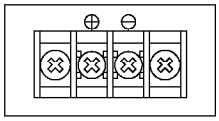


Pin No	Signal
	RS-232C
1	Ground
2	TXD
3	RXD
4	DSR
5	Ground
6	DTR
7	CTS
8	RTS
9	Ground

Note: Refer this connection to a qualified service parson or system installer.

27. 12 V DC Input Terminals (12 V DC IN)

These terminals accept an external DC power source supplying nominal power of 12 V DC, 0.7A.



Caution :

Connect to 12 V DC (11.5 V - 16 V) class 2 power supply only.

ADJUSTMENT PROCEDURE

5. Adjustment Procedure

■ Blemish Concealment and Correction

Test Point:	**Video Output Connector 1**	**Rear Panel**
Adjust:	**Page Button (PAGE)**	**Front Panel**
	Item Button (ITEM/AWC)	**Front Panel**
	Left Button (◄)	**Front Panel**
	Right Button (►)	**Front Panel**

(a) Set the Camera/Colour Bar Selector (CAM/BAR) to the CAM position.

(b) Turn the power ON while pressing the Item Button (ITEM/AWC) and Right Button (►) simultaneously and enter the Scan Mode as shown in Fig. 5-1.

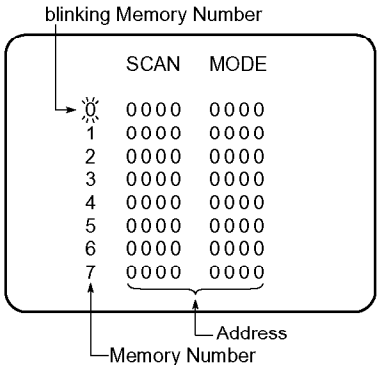


Fig. 5-1

Note: All the data is initialized by pressing the Left Button (◄) and Right Button (►) simultaneously for over 1 second.

(c) Move the blinking Memory Number by the Page Button (Down) and the Item Button (Up) to the associated Memory Number to be compensated.

(d) Set the Camera/Colour Bar Selector (CAM/BAR) to the BAR position, and the Cross type Cursor is displayed as shown in Fig. 5-2.

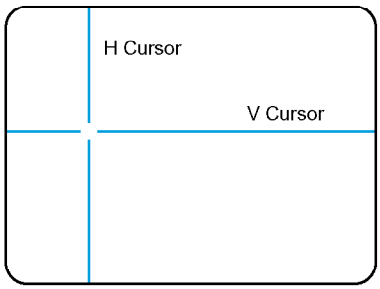


Fig. 5-2

Note: The Cursors are not displayed when the vertical and horizontal addresses are (0000, 0000) because they are out of the effective picture area.

(e) Set the Electronic Light Control ON/OFF Selector (ELC ON/OFF) to either ON or OFF so that the largest Blemish Level decreases.

(f) Move the Cursor Position by the Page Button (Up), Item Button (Down), Left Button (Left) and Right Button (Right) to the Blemish position to be compensated, the Blemish is eliminated.

(g) Set the Scene File Selector (SCENE) to either 1 or 2 so that the Blemish Level is minimized.

(h) After confirming the Blemish is compensated, set the Camera/Colour Bar Selector (CAM/BAR) to the CAM position to save the status and return to the Scan Mode.

(i) For the next Blemish, select the next Memory Number by the Page Button (Down) and the Item Button (Up) and set the Camera/Colour Bar Selector (CAM/BAR) to the BAR position, and repeat above steps (item **(f)** – **(h)**) to eliminate the next Blemish.

(j) Up to eight Blemishes can be compensated.

(k) After completing the Blemish compensation, save the data to EEPROM by pressing the Page Button (PAGE) and Item Button (ITEM/AWC) simultaneously for over one second.

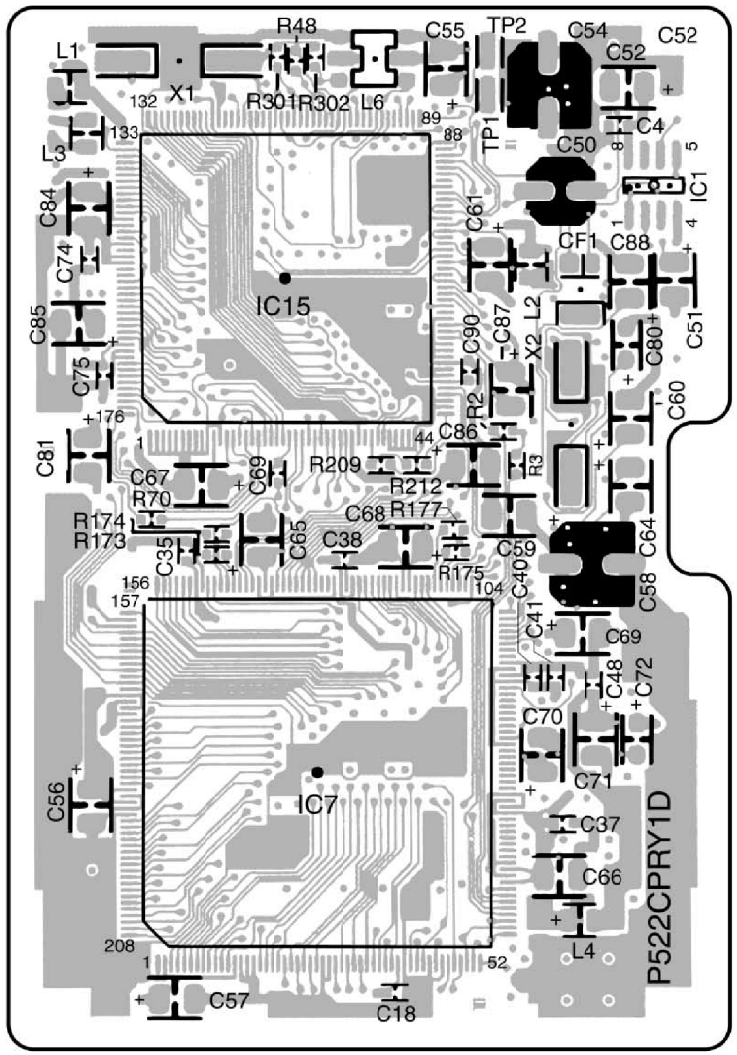
(l) Turn the power OFF.

✳ For rest of adjustments
Refer to "5. Adjustment Procedure" on the page 15 - 22 of the GP-US522HE/GP-US532HE/GP-US522CUE Service Manual.

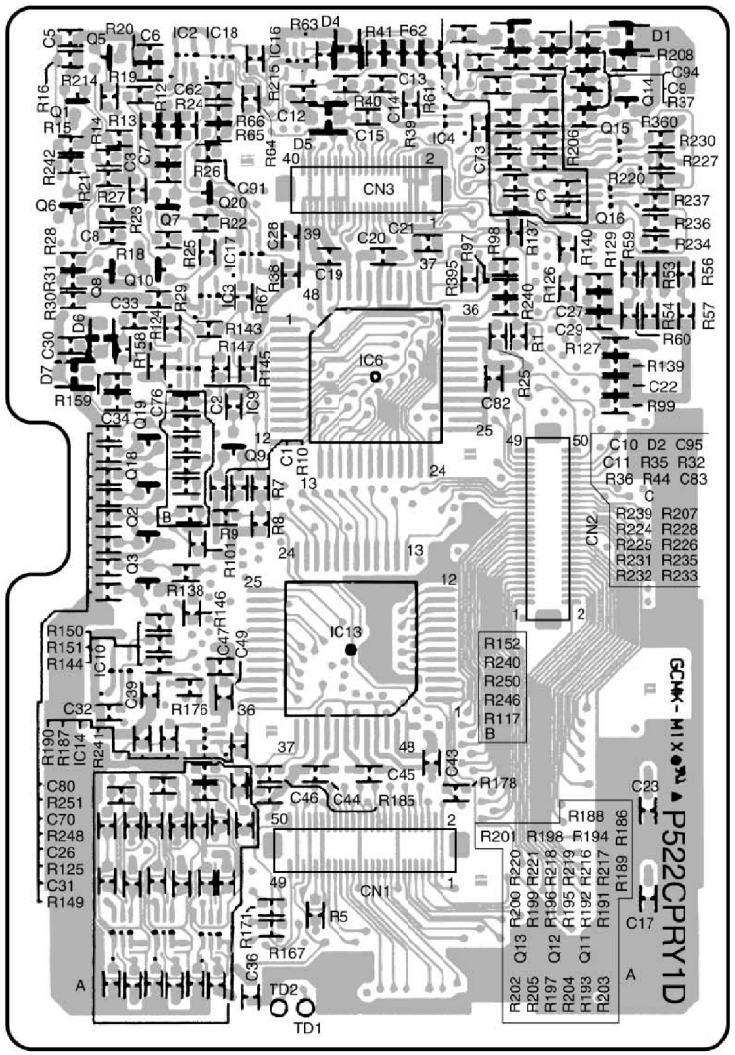
CONDUCTOR VIEW OF DIGITAL BOARD

DIGITAL BOARD

(Component Side View)



(Pattern Side View)

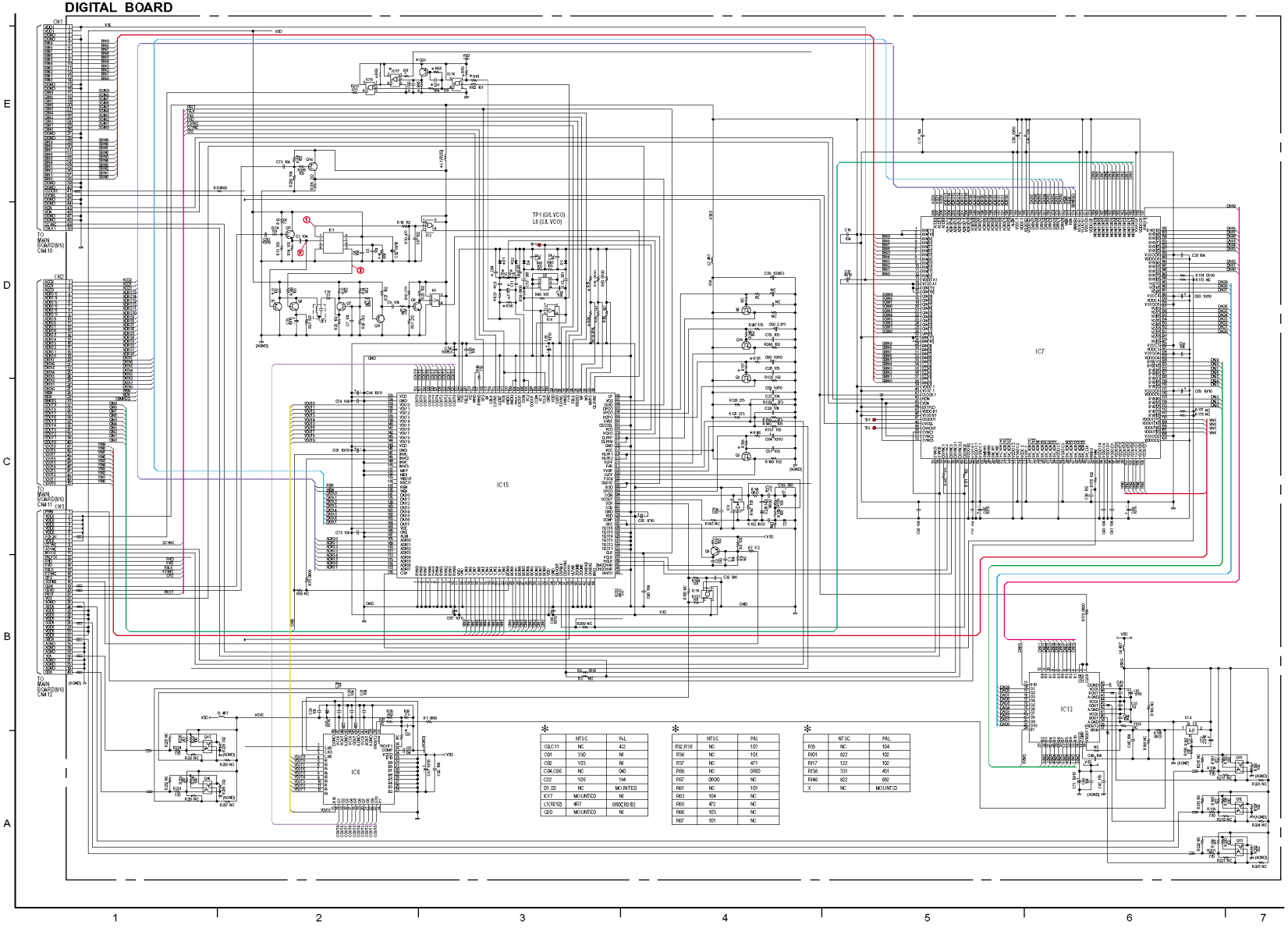


< INDEX >
DIGITAL BORAD

IC1	C2
IC2	C3
IC3	B3
IC4	C3
IC6	B3
IC7	A1/A2/B1/B2
IC9	B3
IC10	B3
IC13	A3/B3
IC14	A3
IC15	B1/B2/C1/C2
IC16	C3
IC17	B3/C3
IC18	C3
Q1	C3
Q2	B3
Q3	B3
Q5	C3
Q6	C3
Q7	C3
Q8	B3
Q9	B3
Q10	B3
Q11	A3
Q12	A3
Q13	A3
Q14	C4
Q15	C4
Q16	C4
Q18	B3
Q20	C3
D1	C4
D2	C3
D4	C3
D5	C3
D6	B3
D7	B3

SCHEMATIC DIAGRAM OF DIGITAL BOARD

DIGITAL BOARD



< INDEX >
DIGITAL BOARD

IC1	D2
IC2	D3
IC3	D3
IC4	D3
IC5	A2
IC7	D6
IC9	C4
IC10	B4
IC13	B6
IC14	B6
IC15	C5
IC16	E3
IC17	E2
IC18	E2
Q1	D2
Q2	C4
Q3	C4
Q5	D2
Q6	D2
Q7	D2
Q8	D2
Q9	B4
Q10	D2
Q11	A7
Q12	A7
Q13	A7
Q14	D2
Q15	A1
Q16	A1
Q18	C4
Q20	E3
D1	D3
D2	D3
D4	D3
D5	D3
D6	C4
D7	C4

※	NTSC	PAL
C5,C11	NC	4.7
C91	330	NC
C92	103	NC
C94,C95	NC	560
C22	105	104
D1,D2	NC	MOUNTED
IC17	MOUNTED	NC
L1(R2,Q)	4R7	0R0(2012S)
Q20	MOUNTED	NC

※	NTSC	PAL
R32,R36	NC	101
R36	NC	104
R37	NC	471
R56	NC	0R0
R57	0R00	NC
R81	NC	101
R83	104	NC
R85	472	NC
R86	103	NC
R87	101	NC

※	NTSC	PAL
R5	NC	104
R101	822	102
R117	122	102
R138	331	431
R146	822	682
X1	NC	MOUNTED

Note: The value indicated in the schematic diagram should be read as follows:

<Example>

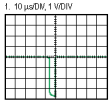
For Resistor:
330 ➡ 33 x 10^0 = 33Ω
561 ➡ 56 x 10^1 = 560Ω
123 ➡ 12 x 10^3 = 12kΩ
0R0(= 0Ω

For Capacitor
(Except Electrolytic Capacitor and Tantalum Capacitor):
820 ➡ 82 x 10^0 = 82pF
102 ➡ 10 x 10^2 = 1000pF = 0.001μF
104 ➡ 10 x 10^4 = 100000pF = 0.1μF

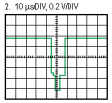
For Coil:
010 ➡ 1 X 10^0 = 1μH
8R2 ➡ 8.2 x 10^0 = 8.2μH
101 ➡ 10 x 10^1 = 100μH

< WAVEFORM >
DIGITAL BOARD

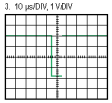
1. 10 μs/DIV, 1 V/DIV



2. 10 μs/DIV, 0.2 V/DIV



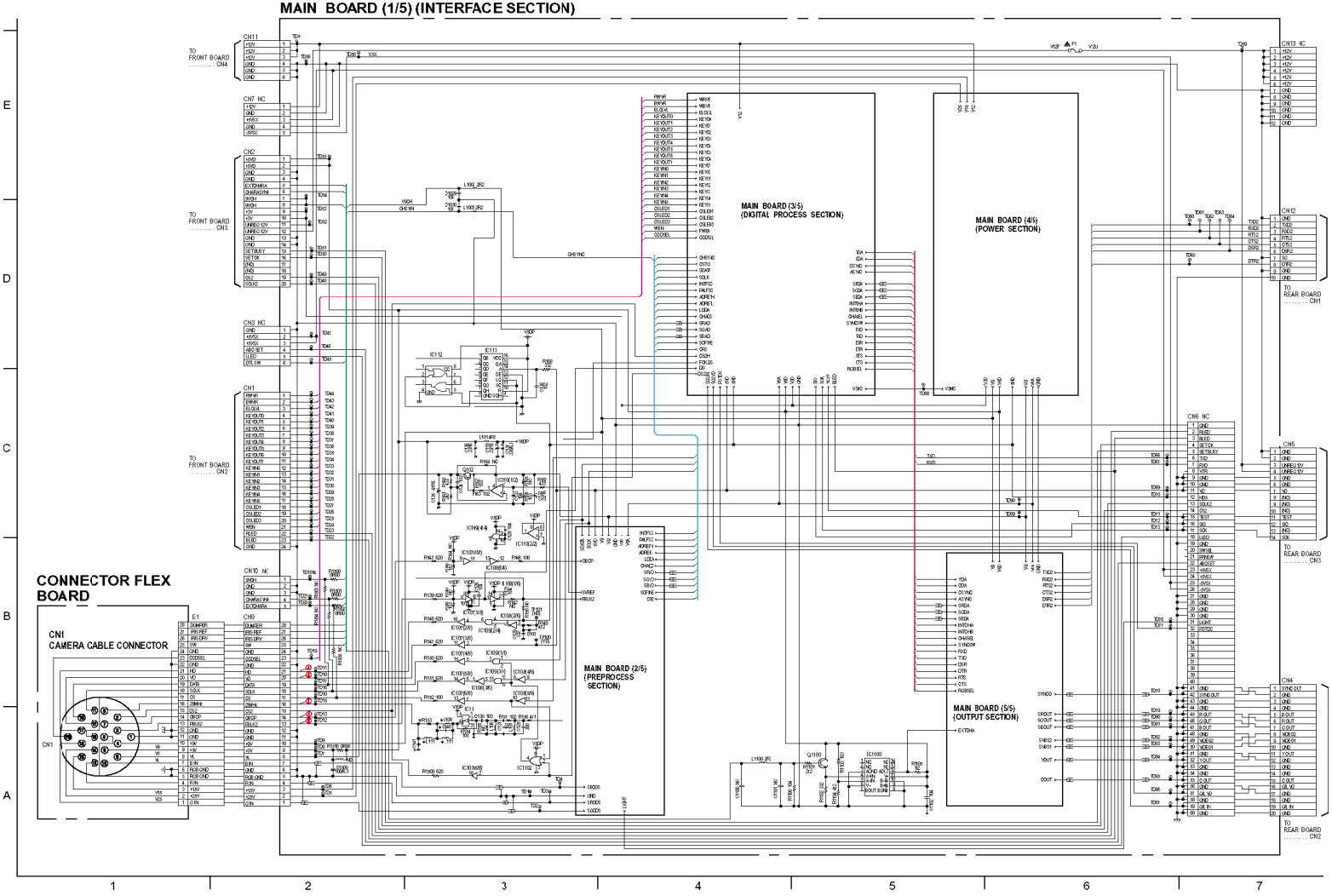
3. 10 μs/DIV, 1 V/DIV



< VOLTAGE >
DIGITAL BOARD

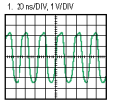
	IC1
Pin 1	0
2	1.6
3	0
4	0
5	3.6
6	1.3
7	4.9
8	5.0

SCHEMATIC DIAGRAM OF MAIN BOARD (1/5) (INTERFACE SECTION)

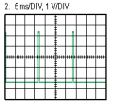


<WAVEFORM>
MAIN BOARD (1/5)

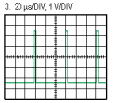
1. 20 ns/DIV, 1 V/DIV



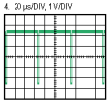
2. 6 ms/DIV, 1 V/DIV



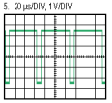
3. 2 µs/DIV, 1 V/DIV



4. 20 µs/DIV, 1 V/DIV



5. 20 µs/DIV, 1 V/DIV



<INDEX>
MAIN BOARD (1/5)

IC107	B3
IC108	B3
IC109	B3
IC110	C3
IC111	A3
IC112	D3
IC113	D3
IC1100	A5
IC1102	A3
Q102	C3
Q1100	A5
D100	B3

Important safety notice

Components Identified by "⚠" mark have special characteristics for safety.
When replacing any of these components, use only manufacturer's specified parts.

Note: The value indicated in the schematic diagram should be read as follows:

Multiplier (0 - 5)
2nd. Significant Digit (0 - 9)
1st. Significant Digit (1 - 9)

<Example>

For Resistor:
330 ➡ 33 x 10^0 = 33 Ω
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For Coil:
010 ➡ 1 x 10^0 = 1 µH
8R2 ➡ 8.2 x 10^0 = 8.2 µH
101 ➡ 10 x 10^1 = 100 µH

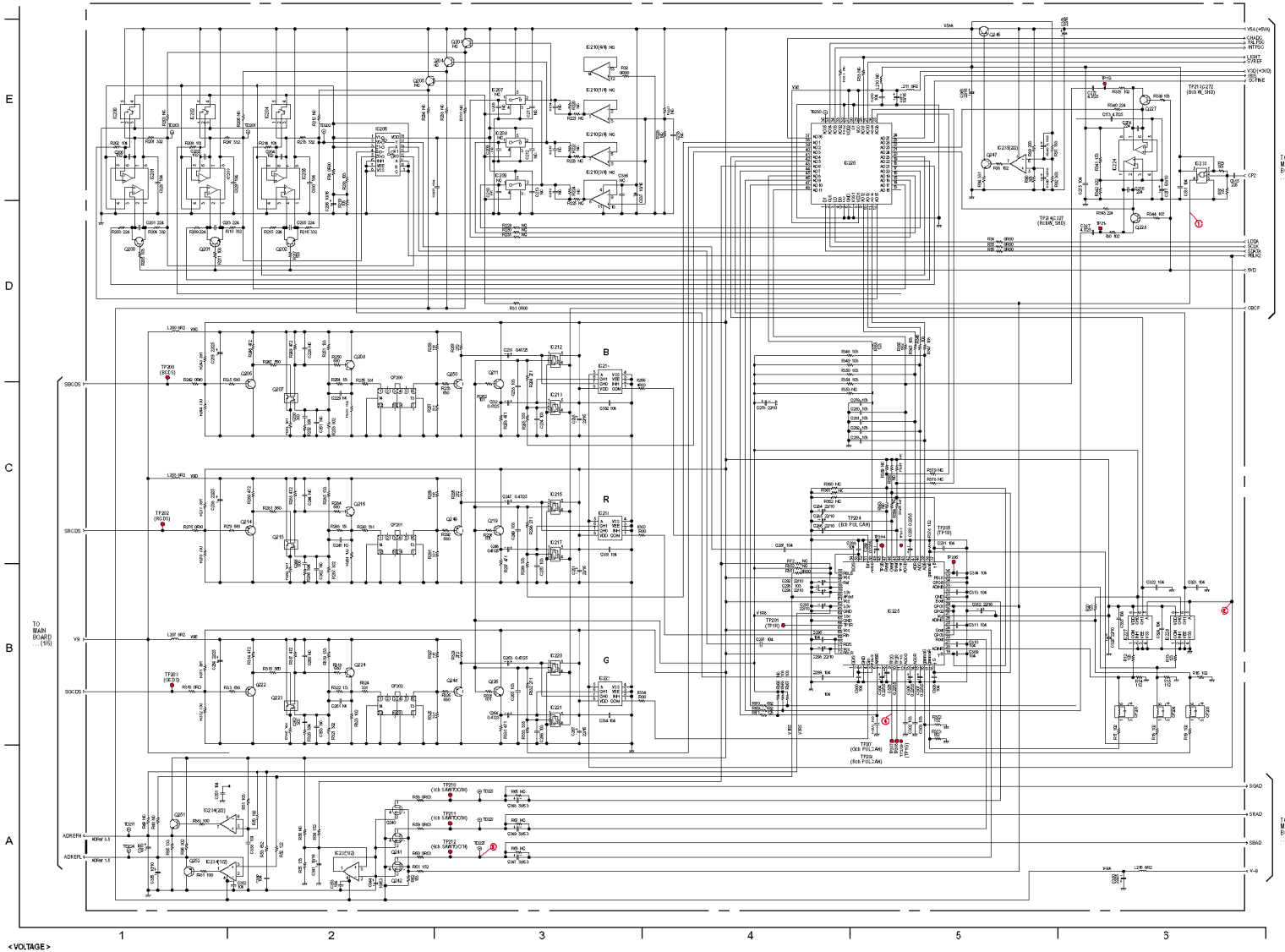
<VOLTAGE>
MAIN BOARD (1/5)

	IC107	IC108	IC109	IC110	IC111	IC112	IC113	IC1100	IC1102
Pin 1	0	4.2	0.1	3.6	--	0.2	0.2	--	0.1
2	0	0.8	0.1	0.2	2.6	0.2	0.2	--	0
3	0.2	0.4	0	0.2	9	1.0	0.2	0	0
4	0.4	4.6	0.8	0.7	2.5	0	0.2	0	0.1
5	0	0	4.6	0	5.0	0.8	0.2	1.6	5.0
6	5.0	5.0	0.4	3.7		0.3	0.2	0	
7	0.1	0	0	3.7		0.3	0.2	1.6	
8	4.1	0.1	0	5.0		5.0	0	0	
9	4.8	3.4	0				0.2	5.6	
10	0	0.1	0				5.0	0	
11	4.9	3.4	0				0.8	5.6	
12	4.2	0.1	0.1				0.8	0.1	
13	0.1	4.9	0.1				0	--	
14	5.0	5.0	5.0				0.2	--	
15	0						0.2		
16	0.4						5.0		
17	0.2								
18	0								
19	0								
20	5.0								

	B	C	E
Q 102	-8.3	-9.0	-9.0
1100	0	5.0	0

SCHEMATIC DIAGRAM OF MAIN BOARD (2/5) (PREPROCESS SECTION)

MAIN BOARD (2/5) (PREPROCESS SECTION)

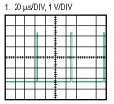


< INDEX >
MAIN BOARD (2/5)

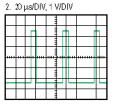
IC200	E1
IC201	E1
IC202	E1
IC203	E2
IC204	E2
IC205	E2
IC206	E2
IC212	D3
IC213	C3
IC214	D3
IC216	C3
IC217	C3
IC218	C3
IC220	B3
IC221	B3
IC222	B3
IC224	E6
IC225	B6
IC226	E4
IC227	B6
IC228	B6
IC233	E6
IC234	A1
IC235	A2
Q200	D1
Q201	D1
Q202	D2
Q206	D2
Q207	C2
Q208	D2
Q211	D3
Q214	C2
Q215	C2
Q216	C2
Q219	C3
Q222	B2
Q223	B2
Q224	B2
Q226	B3
Q227	E6
Q235	D6
Q240	A2
Q241	A2
Q242	A2
Q245	E5
Q247	E5
Q248	B3
Q249	C3
Q250	D3
Q251	A1
Q252	A1

< WAVEFORM >
MAIN BOARD (2/5)

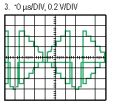
1. 20 µs/DIV, 1 V/DIV



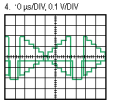
2. 20 µs/DIV, 1 V/DIV



3. 10 µs/DIV, 0.2 V/DIV



4. 10 µs/DIV, 0.1 V/DIV



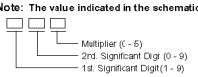
< VOLTAGE >
MAIN BOARD (2/5)

	IC200	IC201	IC202	IC203	IC204	IC205	IC206	IC212	IC213	IC214	IC216	IC217	IC218	IC220	IC221	IC222	IC224	IC233	IC227	IC228	IC234	IC235
Pin 1	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	4.8	1.8	1.8	1.4	1.5
2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.8	1.8	0	1.8	1.8	0	1.8	1.8	0	1.7	1.2	0	0	1.8	1.5
3	0	2.4	0	2.4	0	2.4	2.4	0	0	0	0	0	0	0	0	0	1.7	0	0	0	1.8	1.5
4	0.1	1	0.1	0	0.1	0	2.4	0.1	0.1	0	0.1	0.1	0	0.1	0.1	0	0	0.1	0	0	-9.0	-9.0
5	4.8	24	4.8	2.4	4.8	2.4	2.4	4.8	4.8	1.0	4.8	4.8	1.0	4.8	4.8	1.0	1.7	4.8	1.0	1.0	3.7	3.6
6		24		2.4		2.4	0			1.6			1.6			1.6	1.7		1.6	1.7	3.7	3.6
7		24		2.4		2.4	0			1.6			1.6			1.6	1.7		1.6	1.8	4.4	1.1
8		48		4.8		4.8	0			4.8			1.6			4.8	4.8		4.8	4.8	9.0	5.6
9							10															
10							10															
11							10															
12							24															
13							24															
14							24															
15							24															
16							48															

	B	C	E
Q200	0.1	2.4	2.4
201	0.1	2.4	2.4
202	0.1	2.4	2.4
206	0.9	0	16.0
208	2.3	8.9	16
211	1.6	4.8	1.2
214	0.9	0	1.6
216	2.2	8.9	16
219	1.6	4.8	1.2
222	0.9	0	1.6
224	2.4	8.9	1.6
226	1.6	4.8	1.2
227	0.1	1.7	1.7
235	0.1	1.7	1.7
240	4.3	4.6	5.0
247	1.0	4.3	0.3
248	0.9	0	1.5
249	0.8	0	1.4
250	0.8	0	1.5
251	4.4	4.8	3.7
252	1.1	0	1.8

	1	2	1	4	5	6
Q207	0.9	0.9	1.8	2.3	1.8	8.9
216	0.9	0.9	1.8	2.2	1.8	8.9
223	0.9	0.9	1.8	2.4	1.8	9.9
240	2.3	1.9	-2.7	-9.0		
241	2.3	1.9	-2.7	-9.0		
242	2.3	1.9	-2.7	-9.0		

Note: The value indicated in the schematic diagram should be read as follows:



<Example>

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330 ➡ 33 x 10 ^{0} = 33 Ω
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(Except Electrolytic Capacitor and Tantalum Capacitor)
820 ➡ 82 x 10 ^{0} = 82 pF
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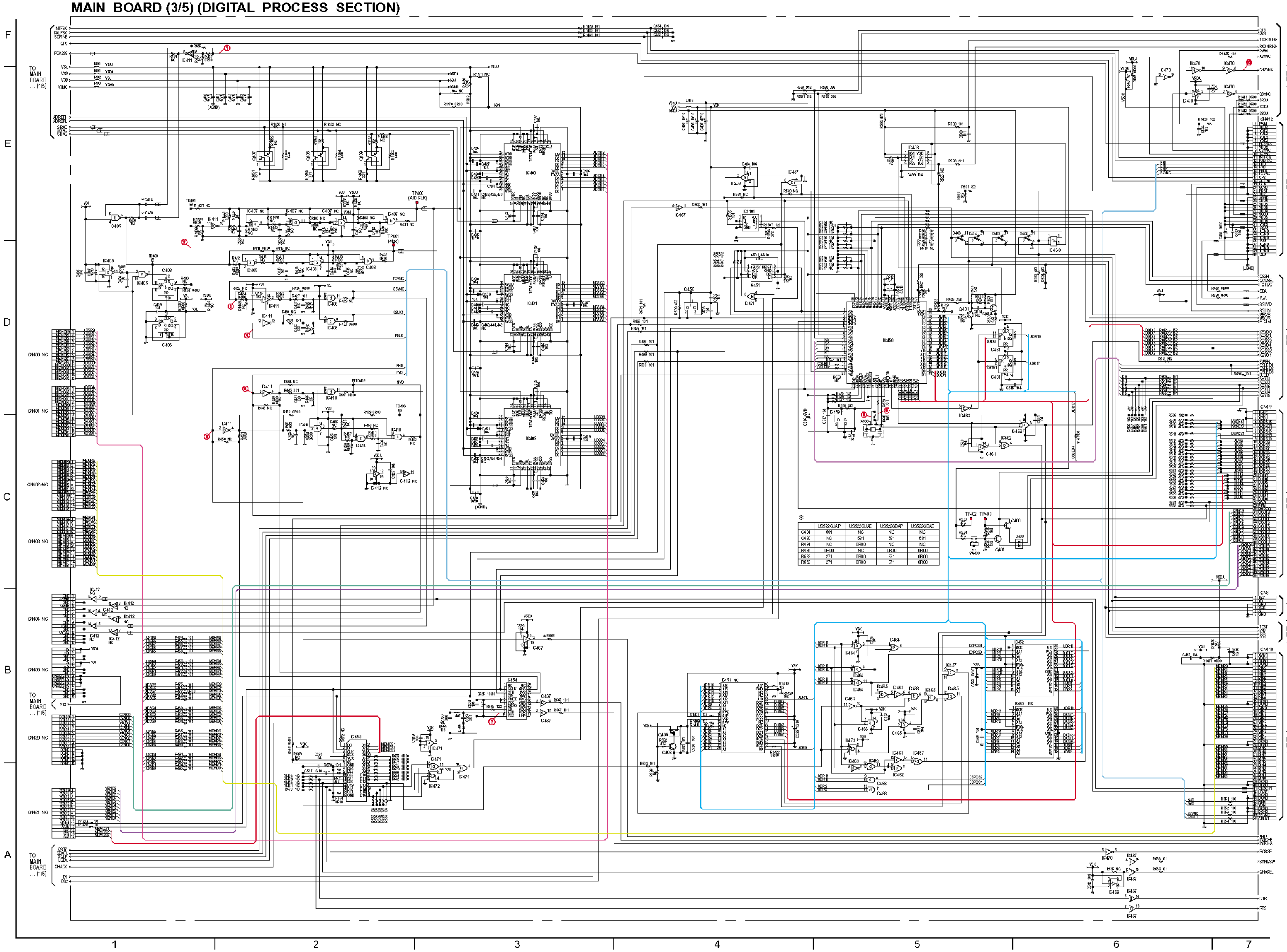
8R2 ➡ 8.2 x 10 ^{0} = 8.2 µH
101 ➡ 10 x 10 ^{1} = 100 µH

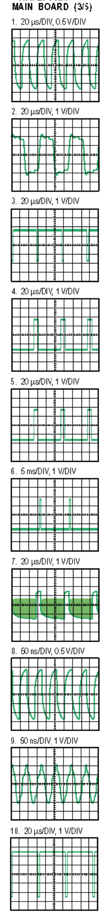
SCHEMATIC DIAGRAM OF MAIN BOARD (3/5) (DIGITAL SECTION)

MAIN BOARD (3/5) (DIGITAL PROCESS SECTION)



	US522CUAP	US522CUAE	US522CBAP	US522CBAE
C404	681	NC	NC	NC
C420	NC	681	681	681
R434	NC	0R00	NC	NC
R435	0R00	NC	0R00	0R00
R522	271	0R00	271	0R00
R552	271	0R00	271	0R00

<WAVEFORM >
MAIN BOARD (3/5)



Note: The value indicated in the schematic diagram should be read as follows:

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- 2nd. Significant Digit (0 - 9)
- 1st. Significant Digit (1 - 9)

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- 8R2 ➡ 8.2×10^0 = 8.2 µH
- 101 ➡ 10×10^1 = 100 µH

<VOLTAGE >
MAIN BOARD (3/5)

	IC405	IC406	IC408	IC410	IC411	IC451	IC454	IC456	IC457	IC458	IC459	IC460	IC461	IC462	IC463	IC464	IC465	IC466	IC467	IC469	IC470	IC471	IC472	IC473	IC1101
Pin 1	3.5	3.5	3.5	3.5	3.0	3.5	–	4.9	0	3.5	3.5	–	3.5	4.4	3.0	0	0.2	3.5	0	–	3.0	0	0	0	0
2	0	0	1.5	3.0	0.3	3.5	3.4	4.9	3.4	3.5	3.5	–	0.3	4.4	0.5	0.2	0	0.2	0	0	0.4	0	0	0	0
3	3.5	0	1.5	0	0.5	3.5	0	5.0	3.4	0	0	0	2.8	3.2	0.7	0.2	0.2	0.2	0	0	0.4	0	0	0	0.1
4	3.5	3.5	3.5	3.5	3.0	3.4	0.1	0	0			5.0	3.5	4.4	2.8	0.2	1.9	1.2	3.5	3.5	4.6	3.5	3.5	0	0
5	1.6	3.5	0	0	0.1	0.1	3.5	4.4	0.1			5.0	0	4.4	2.2	0.9	0.9	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.9
6	1.5	0	1.5	0	3.4	0.1	3.5	4.0	0.1				3.5	4.4	1.2	1.1	2.2	1.2	3.5		0	3.5			0.9
7	0	0	0	0	0	0	1.4	5.0	0				0	0	0	0	0	0	3.5		0	0			0
8	3.5	1.7	2.7	0	1.9	0	1.8	5.0	3.5				3.2	3.3	3.3	0.9	1.4	0.2	0.5		4.6	3.5			3.5
9	0.5	1.7	3.5	3.5	1.5		1.4		3.2				0.2	3.3	0.2	0.4	0.2	1.6	0.1		0.4	3.5			
10	3.0	3.5	2.7	0	1.9		0		1.4				3.5	0.4	3.5	0.7	1.2	0.7	0		0.4	3.5			
11	0.5	1.5	0	3.4	1.7		0		3.5				2.8	3.3	0	1.9	2.6	0.4	0.2		3.0	3.5			
12	3.5	1.7	3.5	3.5	2.7		0		3.1				0.3	0	3.1	0.7	4.4	0.8	0.8		5.0	3.4			
13	3.0	3.5	0	3.4	0.8		0		3.3				3.5	3.3	0.4	1.3	1.4	1.2	5.0		0	3.4			
14	3.5	3.5	3.5	3.5	3.5		0		3.5				3.5	4.8	4.8	3.5	3.5	3.5	5.0		5.0	3.5			
15							0												5.0						
16							0												5.0						
17							0												0						
18							3.4												0						
19							3.0												0						
20							–												5.0						

	B	C	E
Q400	–	0.3	–
401	–	0.3	–
403	0.8	0.1	0
404	4.3	4.9	5.0
405	5.4	0	5.0
406	–0.4	5.3	0

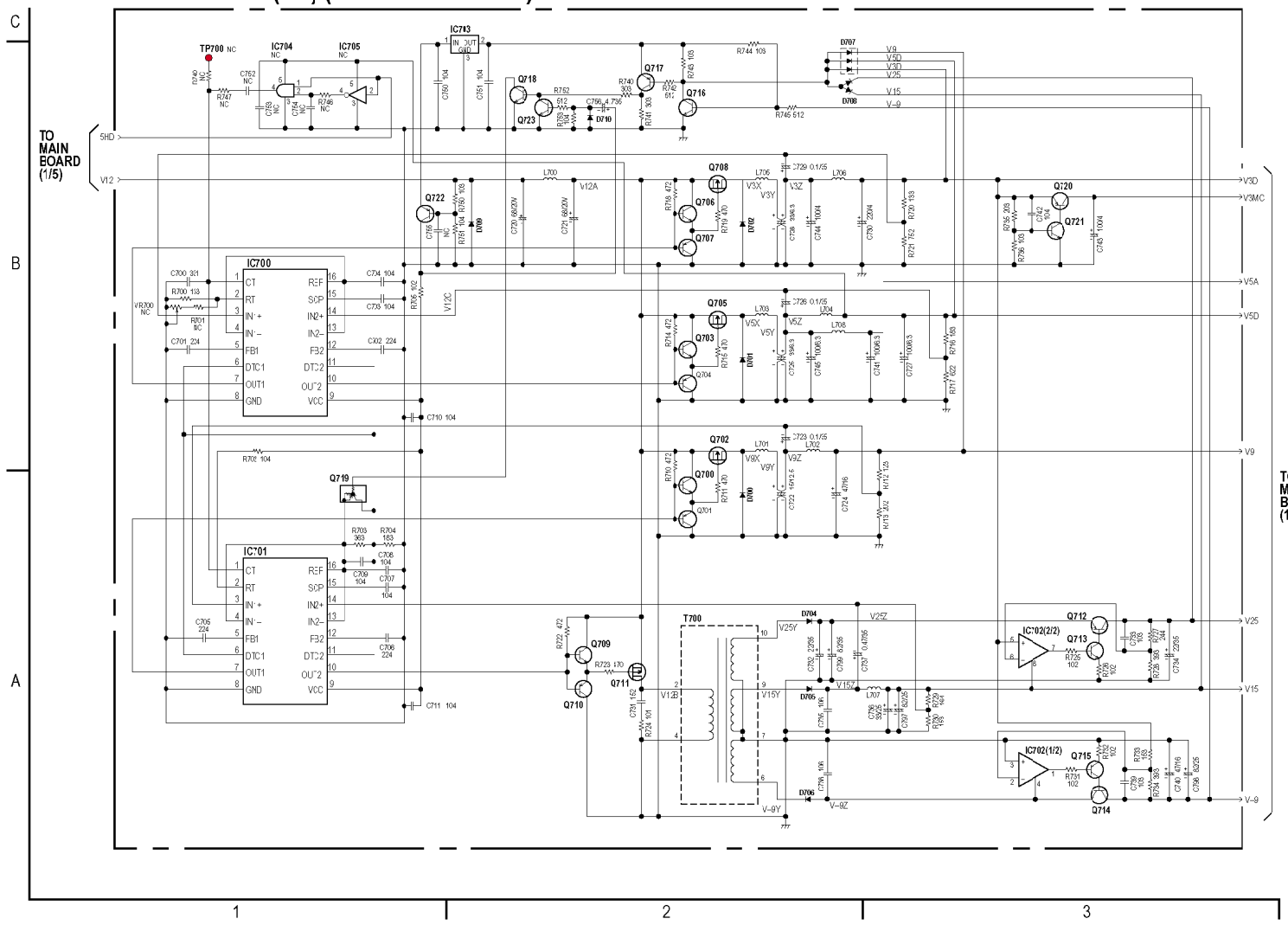
	1	2	3	4	5	6
Q407	2.2	2.9	0	2.9	2.3	5.0
408	2.2	2.9	0	2.9	2.3	5.0
409	2.3	3.0	0	3.0	2.3	5.0

< INDEX >
MAIN BOARD (3/5)

IC400 E3
IC401 D3
IC402 C3
IC405 D2
IC406 D1
IC408 D2
IC410 D2
IC411 D2
IC450 D5
IC451 D4
IC452 B6
IC454 B3
IC455 B2
IC456 E5
IC457 E4
IC458 D4
IC459 D5
IC460 E6
IC461 D6
IC462 C5
IC463 C5
IC464 B5
IC465 B5
IC466 B5
IC467 C3
IC469 A6
IC470 E6
IC471 B3
IC472 A3
IC473 B5
IC1101 E4
Q400 C5
Q401 C5
Q403 D5
Q404 D5
Q405 B4
Q406 B4
Q407 E2
Q408 E2
Q409 E2
D400 C6
D402 E6
D403 E5
D404 E5
D405 E5
D406 B3

SCHEMATIC DIAGRAM OF MAIN BOARD (4/5) (POWER SECTION)

MAIN BOARD (4/5) (POWER SECTION)



< INDEX >
MAIN BOARD (4/5)

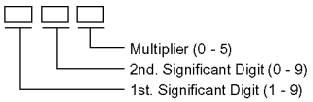
IC700	3I	Q700	A2	D700	A2
IC701	4I	Q701	A2	D701	B2
IC702	4J	Q702	B2	D702	B2
IC703	3Z/C2	Q703	B2	D704	A2
		Q704	B2	D705	A2
		Q705	B2	D706	A2
		Q706	B2	D707	C2
		Q707	B2	D708	B2
		Q708	B2	D709	B2
		Q709	A2	D710	B2
		Q710	A2		
		Q711	A2		
		Q712	A3		
		Q713	A3		
		Q714	A3		
		Q715	A3		
		Q716	B2		
		Q717	B2		
		Q718	B2		
		Q719	A2		
		Q720	B3		
		Q721	B3		
		Q722	B2		
		Q723	B2		

< VOLTAGE >
MAIN BOARD (4/5)

	IC700	IC701	IC702	IC703
Pin 1	1.6	1.6	-0.7	11.3
2	1.3	2.8	0	2.6
3	1.3	1.3	0	0
4	1.3	1.3	-10.1	
5	1.7	1.4	3.5	
6	0.4	0.4	3.5	
7	8.1	3.8	0.4	
8	0	0	14.9	
9	8.1	8.1		
10	6.8	6.2		
11	0.4	0.4		
12	1.6	1.6		
13	1.3	1.3		
14	1.3	1.3		
15	0	0		
16	1.3	12.0		

	B	C	E
Q700	3.9	11.3	3.8
701	3.9	0	3.8
702	(G)3.8	(D)9.0	(S)11.3
703	7.0	11.3	6.8
704	7.0	0	6.8
705	(G)6.8	(D)5.1	(S)11.3
706	8.5	11.3	8.1
707	8.5	0	8.1
708	(G)8.1	(D)3.6	(S)11.3
709	6.5	11.3	6.2
710	6.5	0	6.2
711	(G)6.2	(D)0	(S)11.3
712	26.3	25.0	27.0
713	-4.1	26.7	-0.1
714	-9.2	-5.0	-10.1
715	-0.7	-9.2	-0.1
716	-5.1	2.6	0
717	2.6	0	2.6
718	–	1.3	0
719	1.3	0.4	1.3
720	2.7	3.5	3.5
721	0.7	2.7	0
722	0	11.3	11.3
723	0	–	0

Note: The value indicated in the schematic diagram should be read as follows:



<Example>

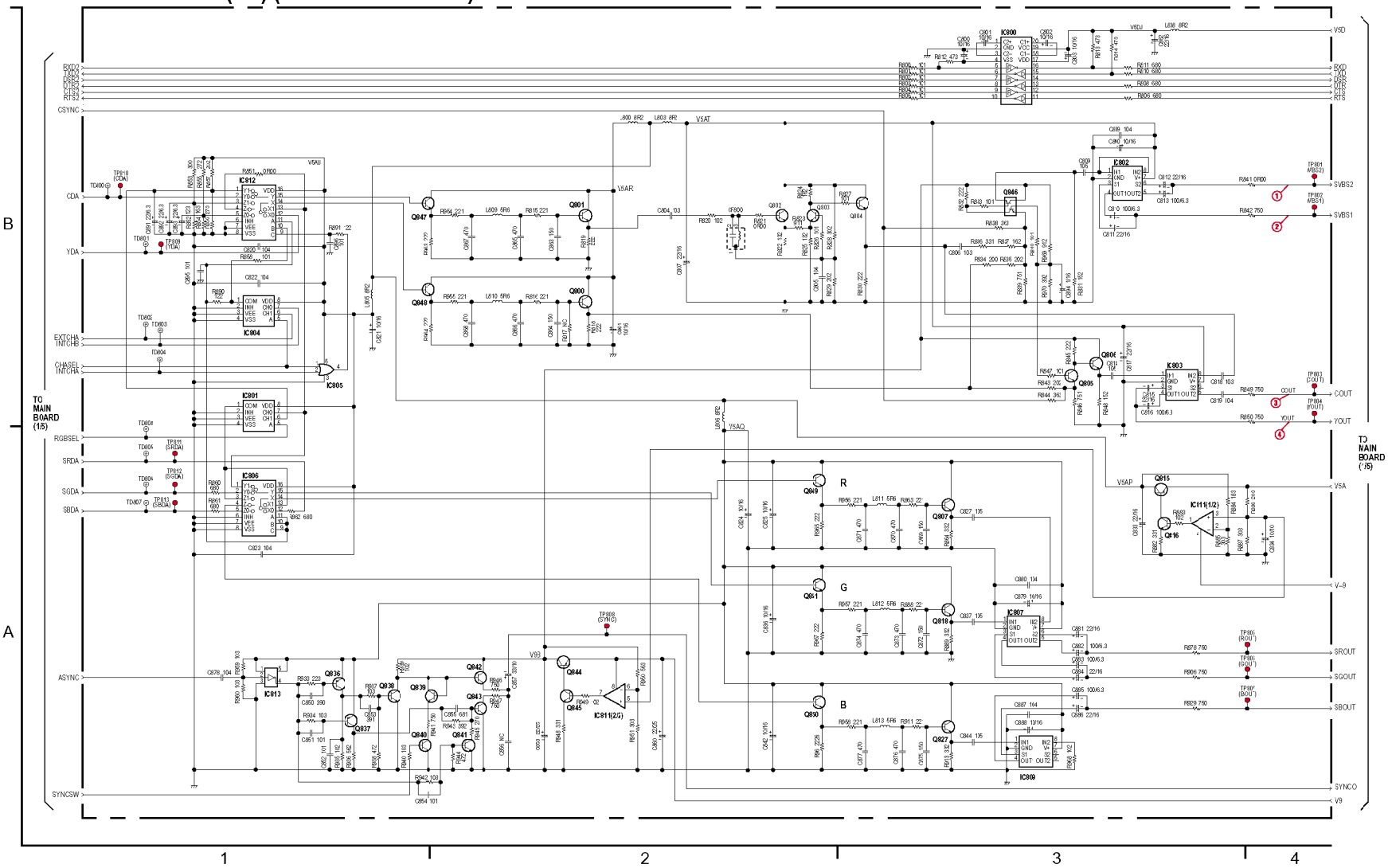
For Resistor:
330 ➡ 33 x 10^0 = 33 Ω
561 ➡ 56 x 10^1 = 560 Ω
123 ➡ 12 x 10^3 = 12k Ω
0R00 = 0 Ω

For Capacitor
(Except Electrolytic Capacitor and Tantalum Capacitor):
820 ➡ 82 x 10^0 = 82 pF
102 ➡ 10 x 10^2 = 1000 pF = 0.001 μF
104 ➡ 10 x 10^4 = 100000 pF = 0.1 μF

For Coil
010 ➡ 1 x 10^0 = 1 μH
8R2 ➡ 8.2 x 10^0 = 8.2 μH
101 ➡ 10 x 10^1 = 100 μH

SCHEMATIC DIAGRAM OF MAIN BOARD (5/5) (OUTPUT SECTION)

MAIN BOARD (5/5) (OUTPUT SECTION)



Note: The value indicated in the schematic diagram should be read as follows:

- Multiplier (0 - 5)
- 2nd. Significant Digit (0 - 9)
- 1st. Significant Digit (1 - 9)

<Example>

For Resistor:

- 330 ➡ 33 x 10^0 = 33 Ω
- 561 ➡ 56 x 10^1 = 560 Ω
- 123 ➡ 12 x 10^3 = 12k Ω
- 0R00 = 0 Ω

For Capacitor
(Except Electrolyic Capacitor and Tantalum Capacitor):

- 820 ➡ 82 x 10^0 = 82 pF
- 102 ➡ 10 x 10^2 = 1000 pF = 0.001 μF
- 104 ➡ 10 x 10^4 = 100000 pF = 0.1 μF

For Coil:

- 010 ➡ 1 x 10^0 = 1 μH
- 8R2 ➡ 8.2 x 10^0 = 8.2 μH
- 101 ➡ 10 x 10^1 = 100 μH

< INDEX >
MAIN BOARD (5/5)

IC800	B3	IC807	A3	Q800	B2	Q807	A3	Q838	A1	Q845	A2
IC801	A1/B1	IC809	A3	Q801	B2	Q815	A3	Q839	A1/A2	Q846	B3
IC802	B3	IC811	A2,A3	Q802	B2	Q813	A3	Q840	A1	Q847	B1/B2
IC803	B3	IC812	B1	Q803	B2	Q813	A3	Q841	A2	Q848	B1/B2
IC804	B1	IC813	A1	Q804	B3	Q827	A3	Q842	A2	Q849	A2
IC805	B1			Q805	B3	Q835	A1	Q843	A2	Q850	A2
IC806	A1			Q806	B3	Q837	A1	Q844	A2	Q851	A2

< VOLTAGE >
MAIN BOARD (5/5)

	IC800	IC801	IC802	IC803	IC804	IC805
Pin1	5.0	4.8	2.2	2.3	4.8	5.0
2	0	0	0	0	0	0
3	-4.9	0	2.4	2.5	0	0
4	-9.9	0	2.5	2.6	0	4.8
5	-1.1	0	2.5	2.7	0	4.8
6	-9.9	4.5	2.4	–	4.5	
7	0	4.8	4.8	4.8	0	
8	-9.9	4.8	2.2	2.7	4.8	
9	0					
0	-9.9					
1	5.0					
2	4.9					
3	5.0					
4	4.9					
5	4.9					
6	4.8					
7	10.0					
8	2.5					
9	5.0					
10	7.5					

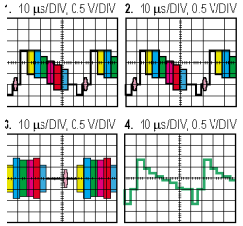
	IC806	IC807	IC808	IC811	IC812	IC813
Pin1	4.8	2.0	2.0	0.7	4.5	4.7
2	4.4	0	0	3.0	4.5	2.3
3	4.8	1.9	1.9	3.0	4.8	0
4	4.4	1.9	1.9	-9.0	4.8	4.3
5	4.4	1.9	1.0	3.0	41.0	4.7
6	0	2.0	1.1	3.0	0	
7	0	4.8	4.7	–	0	
8	0	2.0	1.6	9.0	0	
9	0.3				4.8	
0	0.3				0.3	
-1	0.3				0.3	
-2	4.4				4.4	
-3	4.8				4.8	
-4	4.4				4.4	
-5	4.4				4.5	
-6	4.8				4.8	

	B	C	E
Q801	3.7	4.8	3.0
Q802	3.8	4.8	3.2
Q803	1.9	4.7	1.3
Q804	3.2	4.8	2.5
Q805	2.5	4.8	1.8
Q806	4.0	0.6	4.1
Q807	3.7	4.7	3.0
Q815	4.3	4.8	5.0
Q816	0.7	4.3	0.1
Q838	3.6	4.7	3.0
Q827	3.7	4.7	3.0
Q836	4.6	0.4	4.8
Q837	4.7	0.5	4.7
Q838	0	1.1	0
Q839	1.1	1.1	0.5
Q840	0.7	0	0
Q841	0.6	0.1	0
Q842	1.1	0.6	0.9
Q843	0.1	1.5	0
Q844	8.3	8.6	9.0
Q845	–	8.3	0
Q847	4.5	4.8	3.8
Q848	4.2	4.8	3.7
Q849	4.3	4.8	3.7
Q850	4.3	4.7	3.7
Q851	4.2	4.7	3.6

	1	2	3	4	5	6
Q816	3.7	4.4	4.4	1.8	2.5	8.6

< WAVEFORM >
MAIN BOARD (5/5)

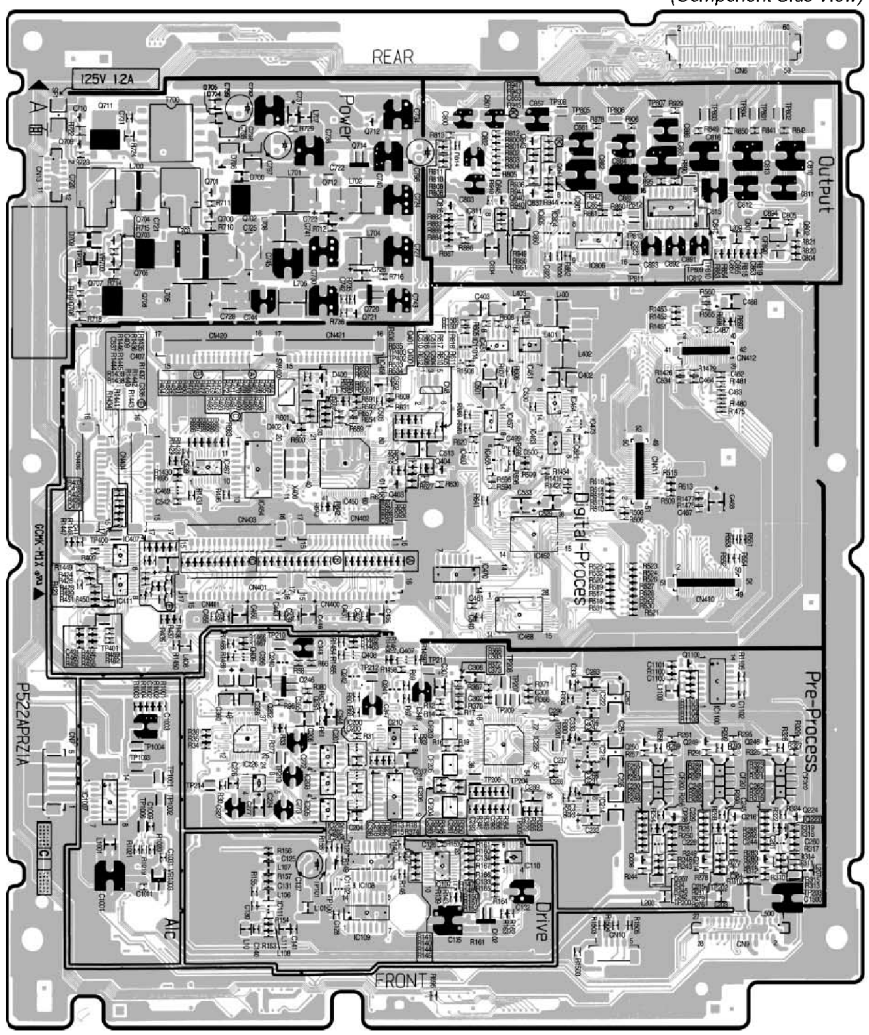
1. 10 μs/DIV, 0.5 V/DIV
2. 10 μs/DIV, 0.5 V/DIV
3. 10 μs/DIV, 0.5 V/DIV
4. 10 μs/DIV, 0.5 V/DIV



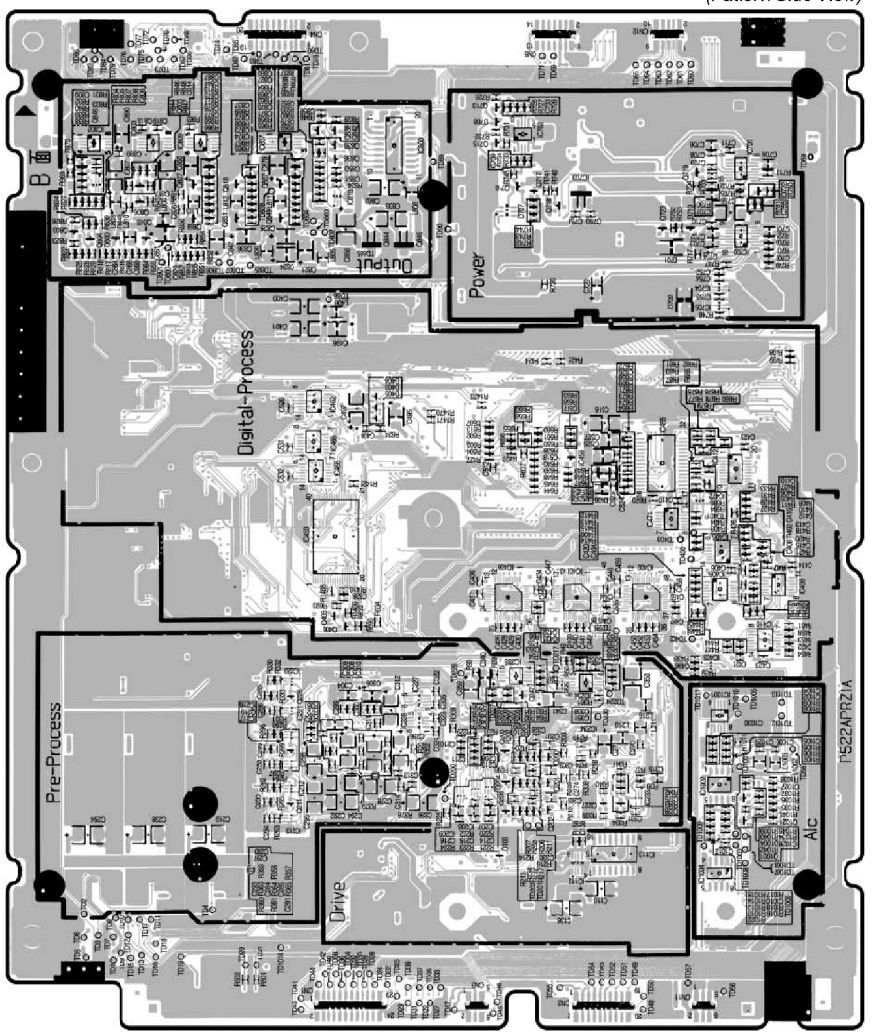
CONDUCTOR VIEW OF MAIN BOARD

MAIN BOARD

(Component Side View)



(Patiern Side View)



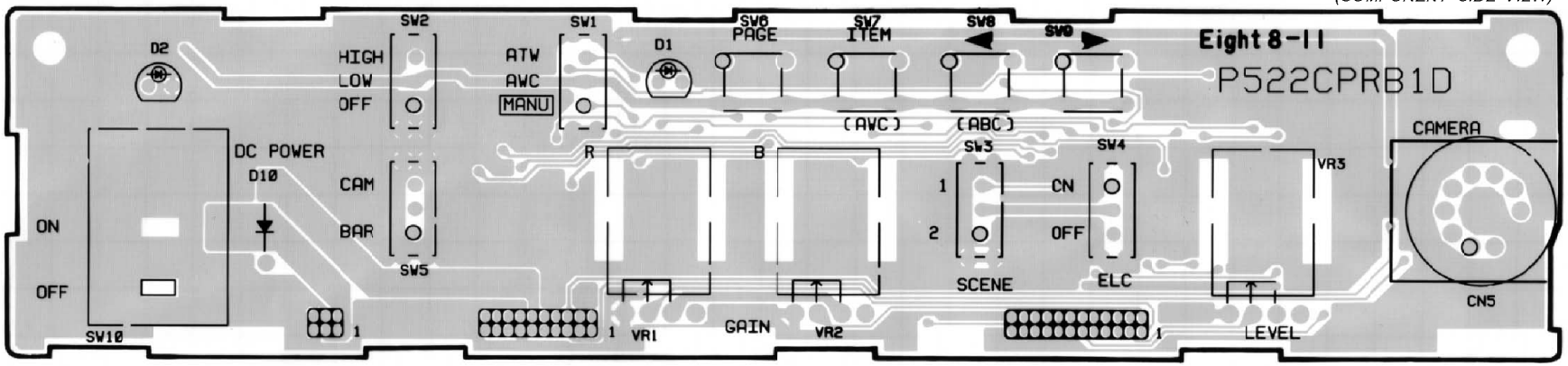
< INDEX >
MAIN BORAD

| | | |

CONDUCTOR VIEW OF FRONT BOARD

FRONT BOARD

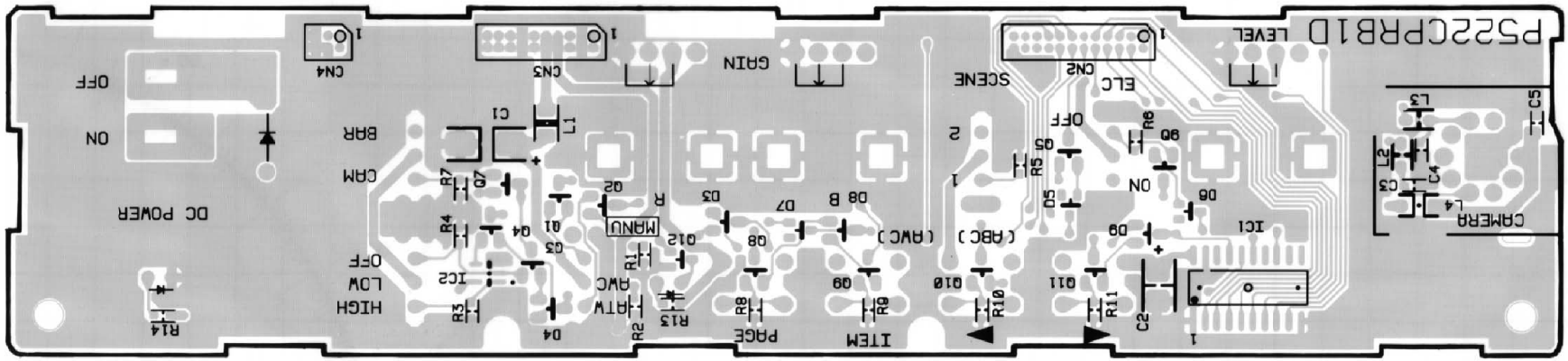
(COMPONENT SIDE VIEW)



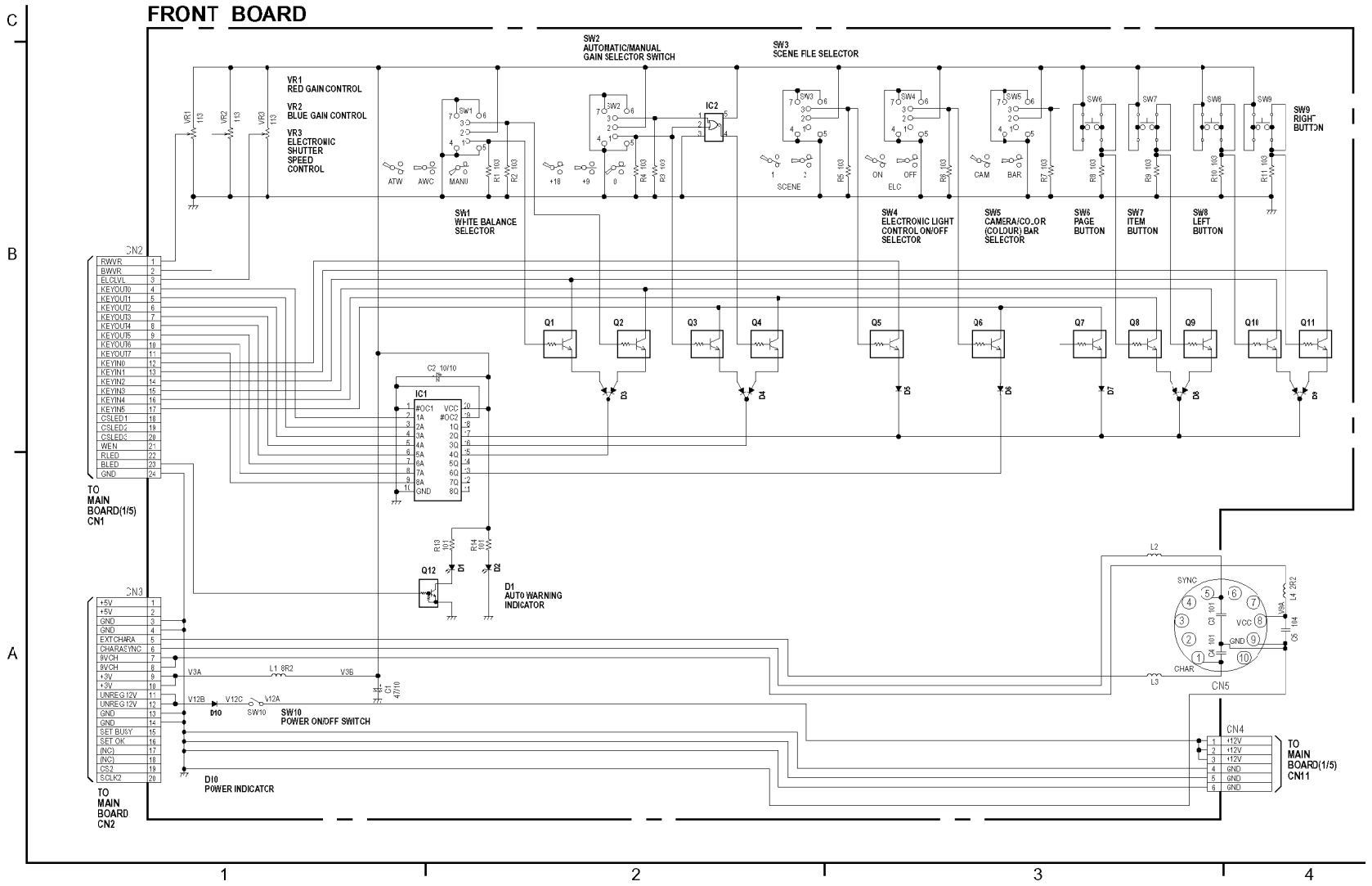
<INDEX>
FRONT BOARD

IC1	A5
IC2	A2
Q1	A3
Q2	A3
Q3	A3
Q4	A2
Q5	A5/B5
Q6	A5
Q7	A3
Q8	A3
Q9	A4
Q10	A4
Q11	A5
Q12	A3
D1	D3
D2	D1
D3	A3
D4	A3
D5	A5
D6	A5
D7	A4
D8	A4
D9	A5
D10	C2

(PATTERN SIDE VIEW)



SCHEMATIC DIAGRAM OF FRONT BOARD



< VOLTAGE >
FRONT BOARD

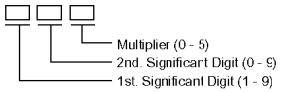
	IC1	IC2
Pin 1	0	0
2	0.3	0
3	0.3	0
4	0.2	0.1
5	0.3	3.5
6	0.2	
7	0.3	
8	0.3	
9	0.2	
10	0	
11	0.1	
12	0.2	
13	0.2	
14	0.1	
15	0.2	
16	0.2	
17	0.2	
18	0.3	
19	0	
20	3.5	

	B	C	E
Q 1	3.5	0.7	0.7
2	0	3.5	–0.1
3	0.1	0.7	–0.1
4	3.4	0.7	0.6
5	0	3.5	–0.1
6	3.5	0.7	0.7
7	0	0.7	–0.1
8	0	0.7	–0.1
9	0	3.5	–0.1
10	0	0.7	–0.1
11	0	3.5	–0.1
12	3.3	0.1	0

< INDEX >
FRONT BOARD

IC1	31
IC2	32
Q1	32
Q2	32
Q3	32
Q4	32
Q5	33
Q6	33
Q7	33
Q8	33
Q9	33
Q10	34
Q11	34
Q12	A1
D1	A2
D2	A2
D3	32
D4	32
D5	33
D6	33
D7	33
D8	33
D9	34
D10	A1

Note: **The value indicated in the schematic diagram should be read as follows:**



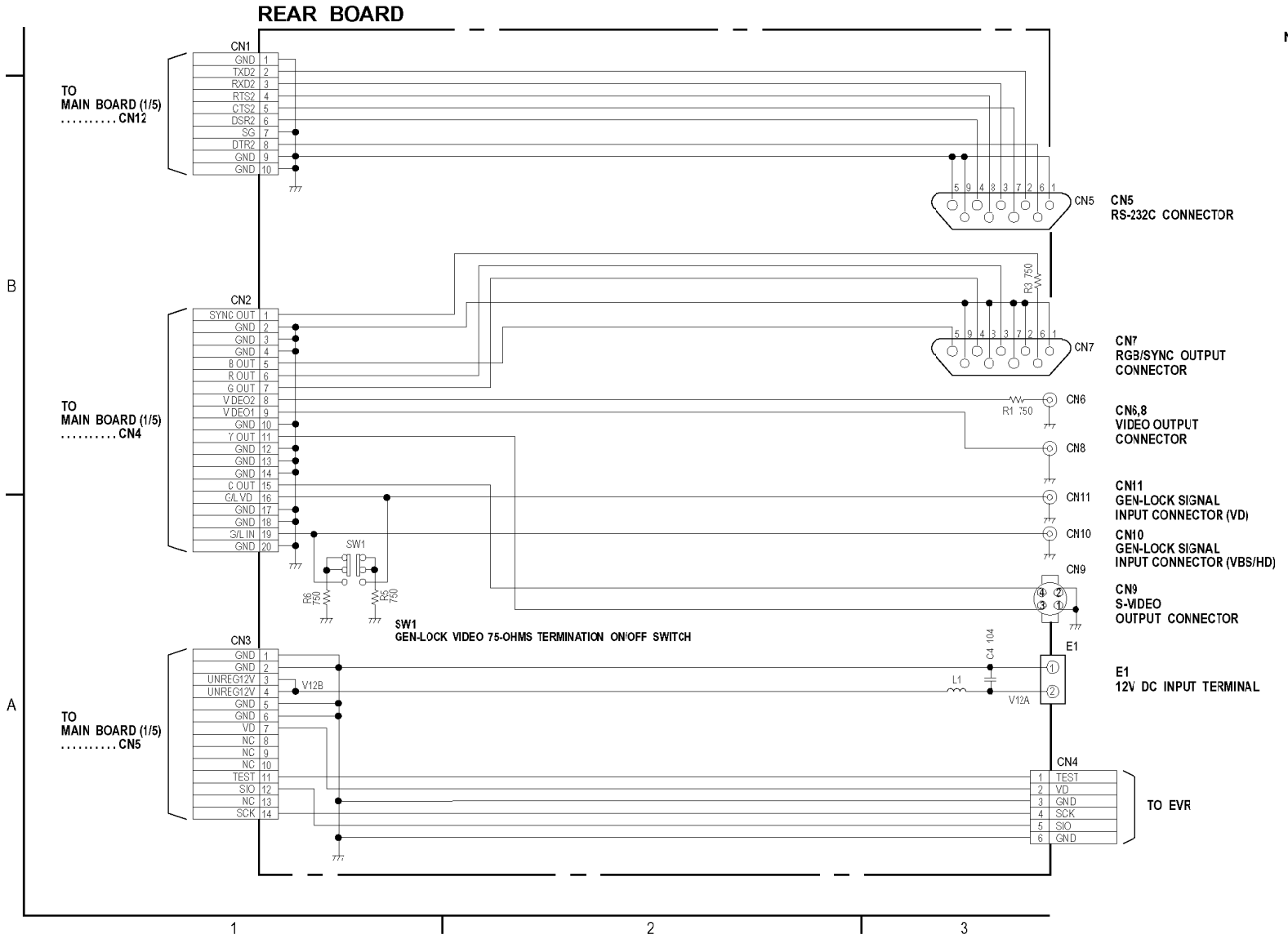
<Example>

For Resistor:
- 330 ➡ 33 x 10^0 = 33 Ω
- 561 ➡ 56 x 10^1 = 560 Ω
- 123 ➡ 12 x 10^3 = 12k Ω
- 0R00 = 0 Ω

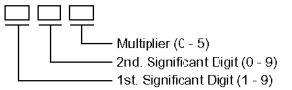
For Capacitor
(Except Electrolytic Capacitor and Tantalum Capacitor):
- 820 ➡ 82 x 10^0 = 82 pF
- 102 ➡ 10 x 10^2 = 1000 pF = 0.001 μF
- 104 ➡ 10 x 10^4 = 100000 pF = 0.1 μF

For Coil:
- 010 ➡ 1 x 10^0 = 1 μH
- 8R2 ➡ 8.2 x 10^0 = 8.2 μH
- 10' ➡ 10 x 10^1 = 100 μH

SCHEMATIC DIAGRAM OF REAR BOARD



Note: The value indicated in the schematic diagram should be read as follows:



<Example>

For Resistor:

330 ➡ 33 x 10^0 = 33 Ω
561 ➡ 56 x 10^1 = 560 Ω
123 ➡ 12 x 10^3 = 12k Ω
0R00 = 0 Ω

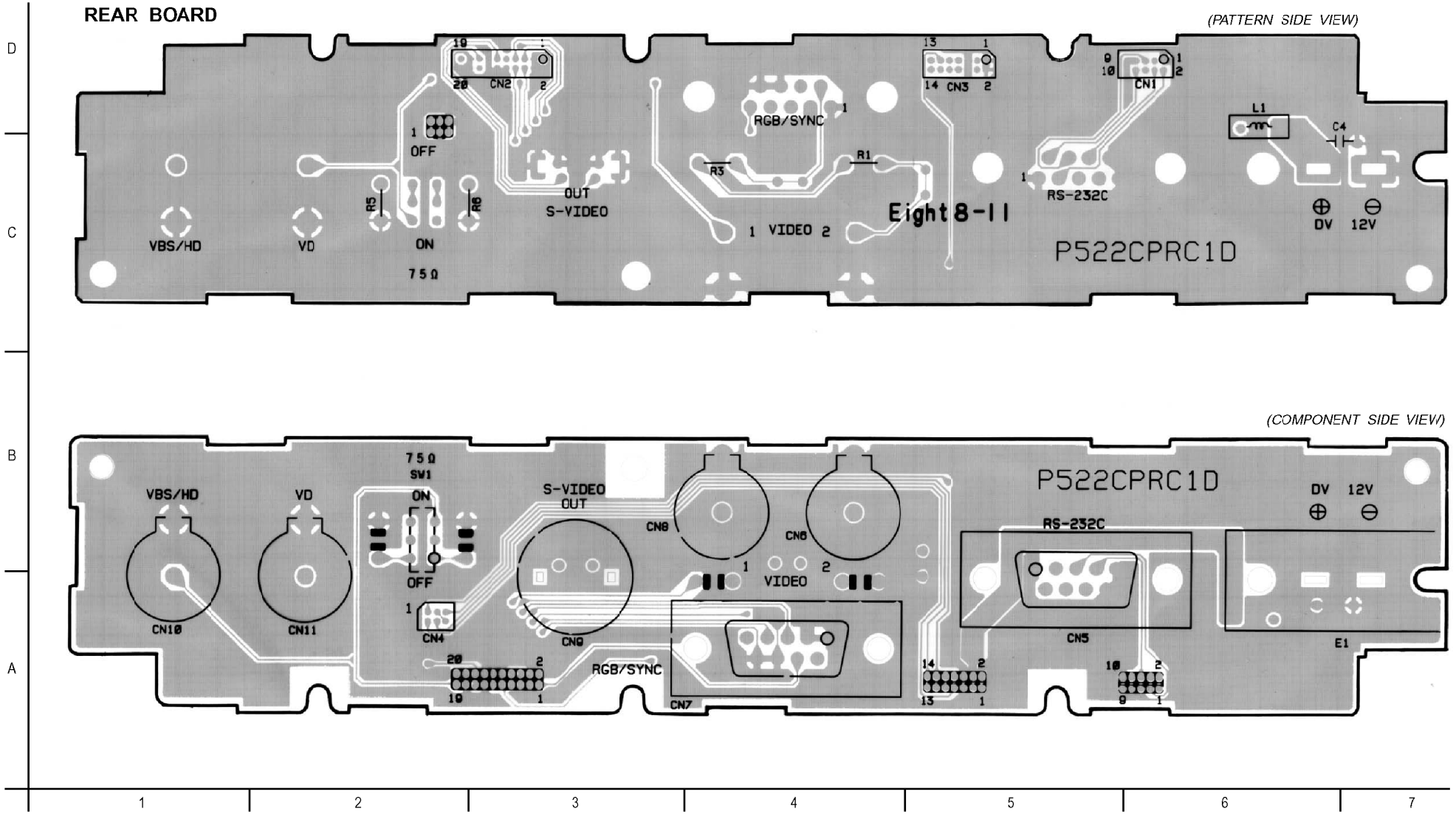
For Capacitor
(Except Electrolytic Capacitor and Tantalum Capacitor):

820 ➡ 82 x 10^0 = 82 pF
102 ➡ 10 x 10^2 = 1000 pF = 0.001 µF
104 ➡ 10 x 10^4 = 100000 pF = 0.1 µF

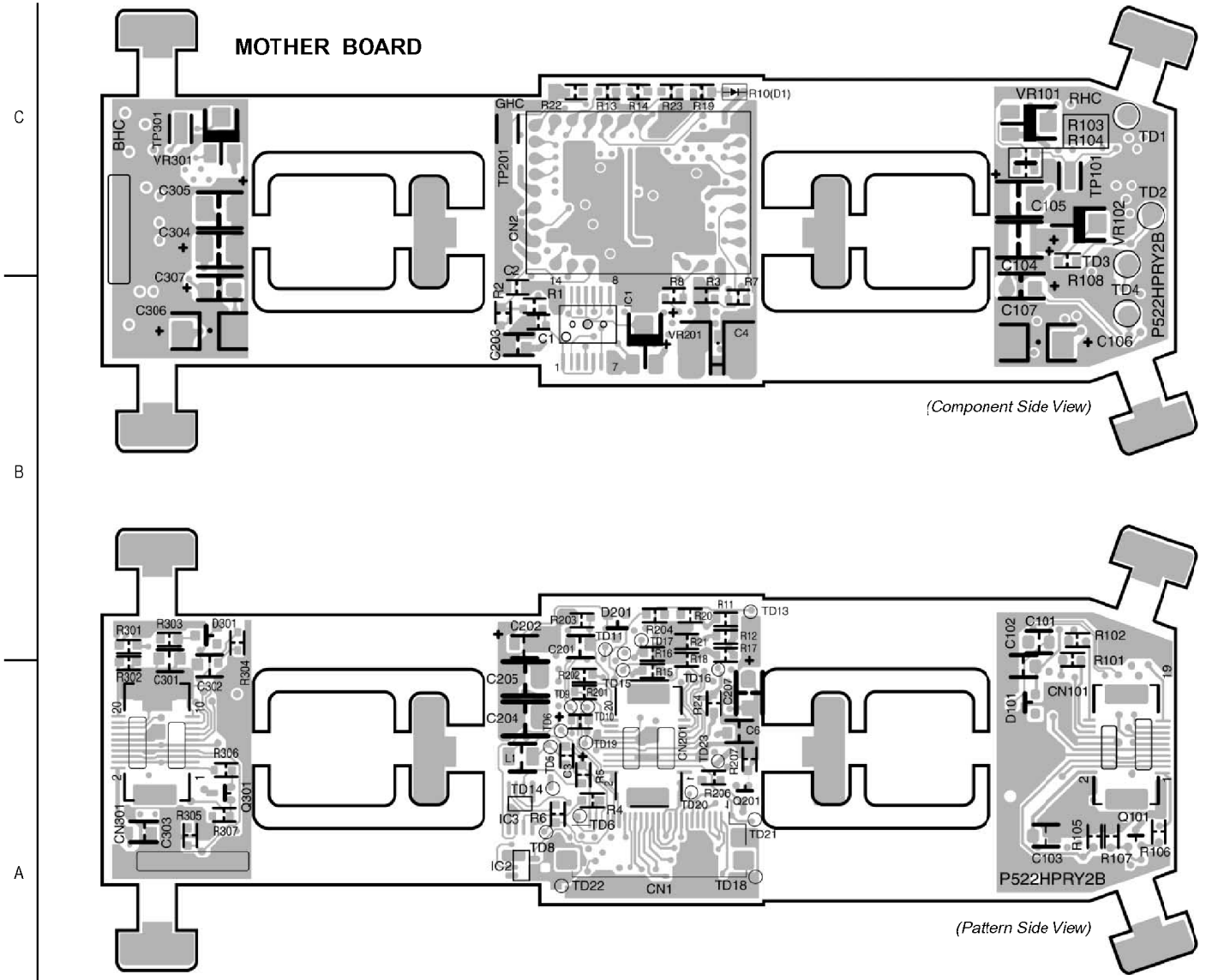
For Coil:

010 ➡ 1 x 10^0 = 1 µH
8R2 ➡ 8.2 x 10^0 = 8.2 µH
101 ➡ 10 x 10^1 = 100 µH

CONDUCTOR VIEW OF REAR BOARD



CONDUCTOR VIEW OF MOTHER BOARD (GP-US522HAE/GP-US532HAE)

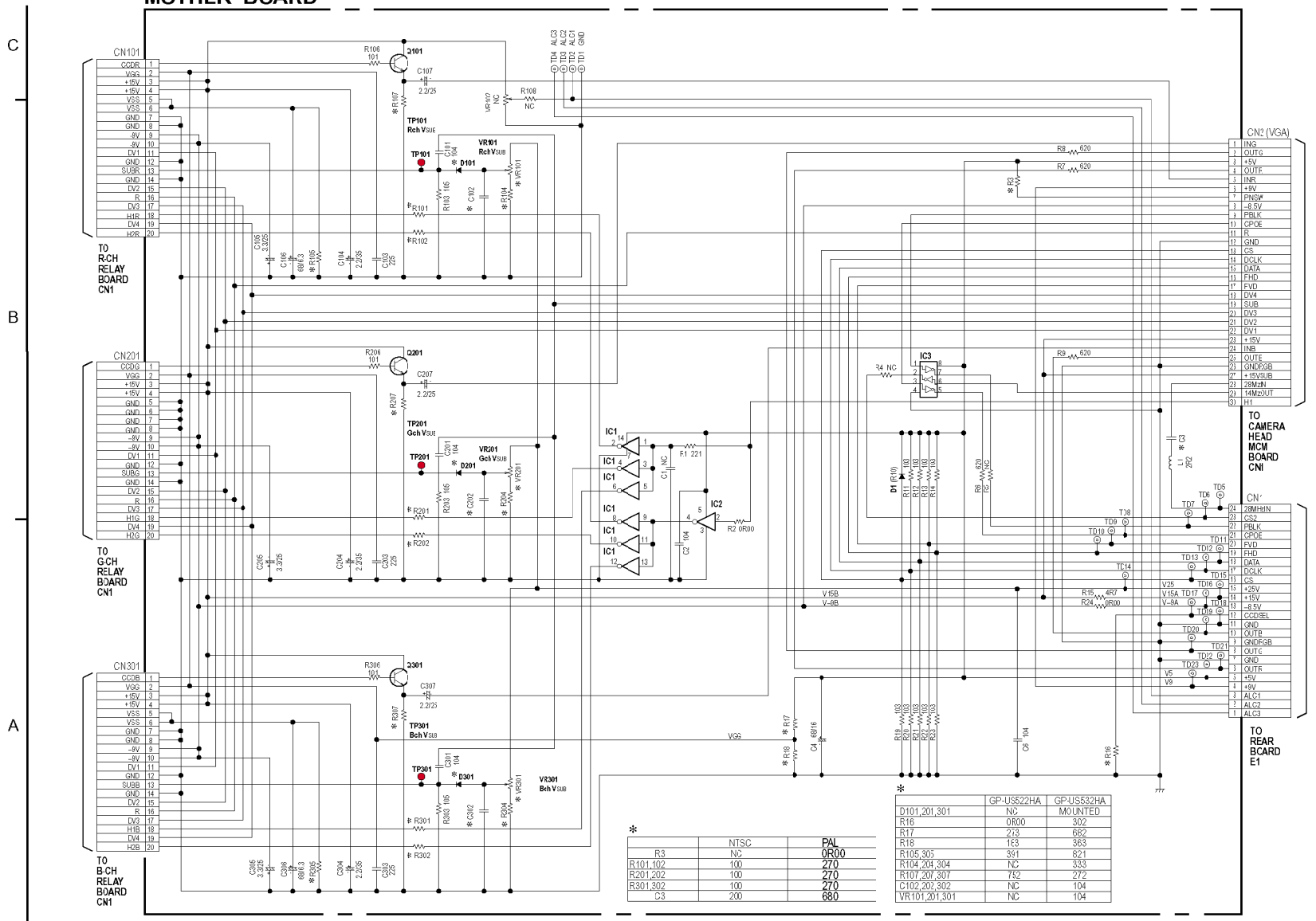


<INDEX>
MOTHER BOARD

IC1	B2
IC2	A2
IC3	A2
Q101	A3
Q201	A2
Q301	A1
D1	C2
D101	A3
D201	B2
D301	B1

SCHEMATIC DIAGRAM OF MOTHER BOARD (GP-US522HAE/GP-US532HAE)

MOTHER BOARD



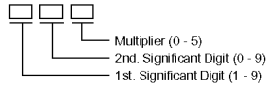
*	NTSC	PAL
R3	NC	0R00
R101,102	100	270
R201,202	100	270
R301,302	100	270
C3	200	680

*	GP-US522HA	GP-US532HA
D101,201,301	NO	MOUNTED
R16	0R00	302
R17	273	682
R18	183	363
R105,305	391	821
R104,204,304	NC	333
R107,207,307	752	272
C102,202,302	NC	104
VR101,201,301	NC	104

< INDEX >
MOTHER BOARD

IC1	B2
IC2	B2
IC3	B3
Q101	C1
Q201	B1
Q301	A1
D1	B3
D101	B2
D201	B2
D301	A2

Note: The value indicated in the schematic diagram should be read as follows:



<Example>

For Resistor:
330 ➡ 33 x 10^0 = 33 Ω
561 ➡ 56 x 10^1 = 560 Ω
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(Except Electrolytic Capacitor and Tantalum Capacitor):
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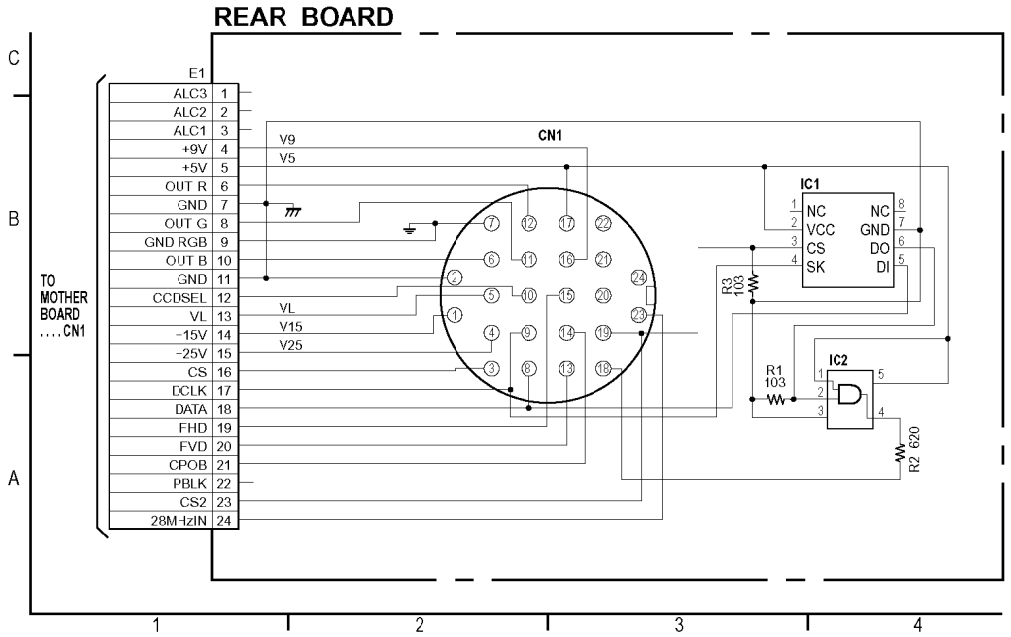
104 ➡ 10 x 10^4 = 100000 pF = 0.1 μF

For Coil:
010 ➡ 1 x 10^0 = 1 μH
8R2 ➡ 8.2 x 10^0 = 8.2 μH
101 ➡ 10 x 10^1 = 100 μH

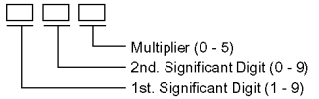
SCHEMATIC DIAGRAM / CONDUCTOR VIEW OF REAR BOARD (GP-US522HAE/GP-US532HAE)



< INDEX >
REAR BOARD

IC1 B4
IC2 A4

Note: The value indicated in the schematic diagram should be read as follows:



<Example>

For Resistor:

330 ➡ 33 x 10^0 = 33 Ω
561 ➡ 56 x 10^1 = 560 Ω
123 ➡ 12 x 10^3 = 12k Ω
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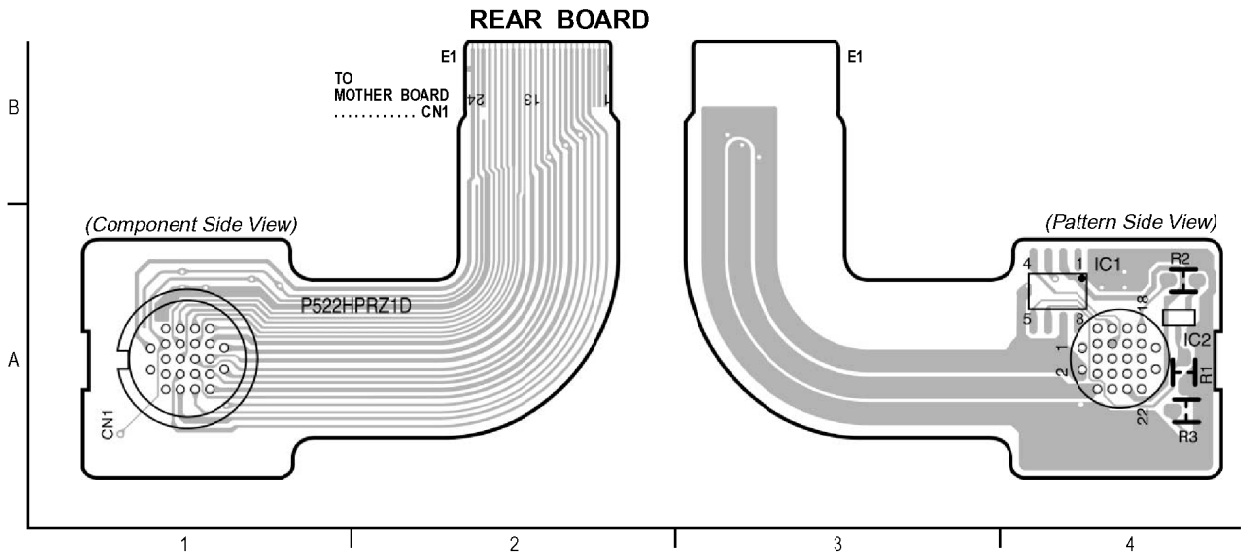
For Capacitor
(Except Electrolytic Capacitor and Tantalum Capacitor):

820 ➡ 82 x 10^0 = 82 pF
102 ➡ 10 x 10^2 = 1000 pF = 0.001 µF
104 ➡ 10 x 10^4 = 100000 pF = 0.1 µF

For Coil:

010 ➡ 1 x 10^0 = 1 µH
8R2 ➡ 8.2 x 10^0 = 8.2 µH
101 ➡ 10 x 10^1 = 100 µH



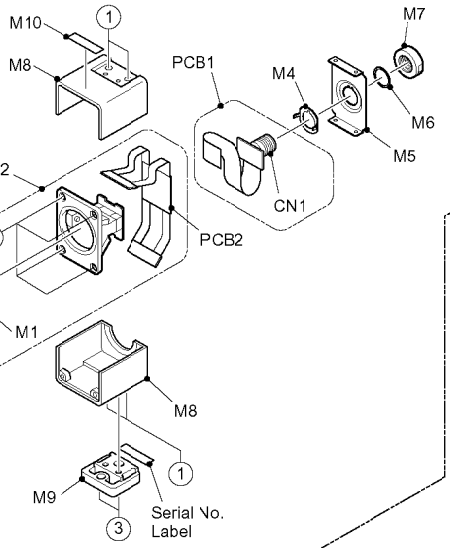
< INDEX >
REAR BOARD

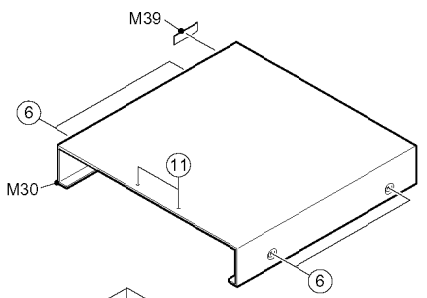
IC1 A4
IC2 A4

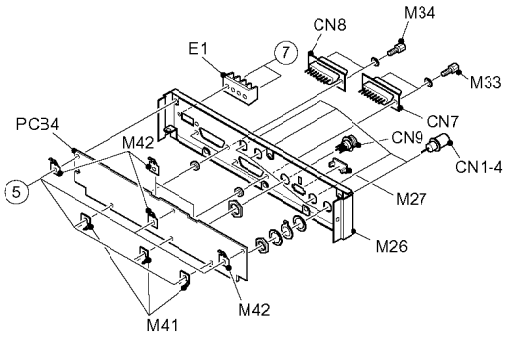
EXPLODED VIEW

◯Numbers show screws, washers, nuts and etc.

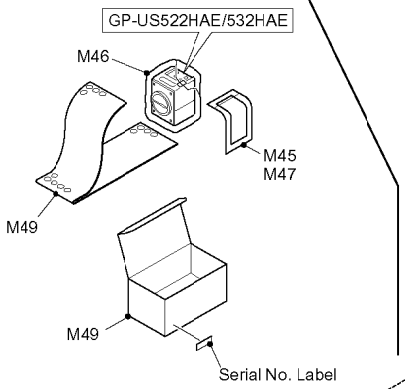
No.	Screws	Description
①	XSS26+5FXK	Flush Head Black Screws
②	XQG26+A6FXK	Round-Flat Head Black Screws
③	XSS26+10FXK	Flush Head Black Screws
④	XYN3+F6FN	Pan Head Screw and Washer Assy
⑤	XYN3+J6FN	Pan Head Screw and Washer Assy
⑥	XSB3+6FZK	Binding Head Black Screws
⑦	XSB3+12FZK	Binding Head Black Screws
⑧	XSB3+6FX	Binding Head Screws
⑨	XQN2+C2FX	Pan Head Screws for Precision Equ ptemt
⑩	XSB3+10FZK	Binding Head Black Screws
⑪	XSB2+4FXK	Binding Head Black Screws



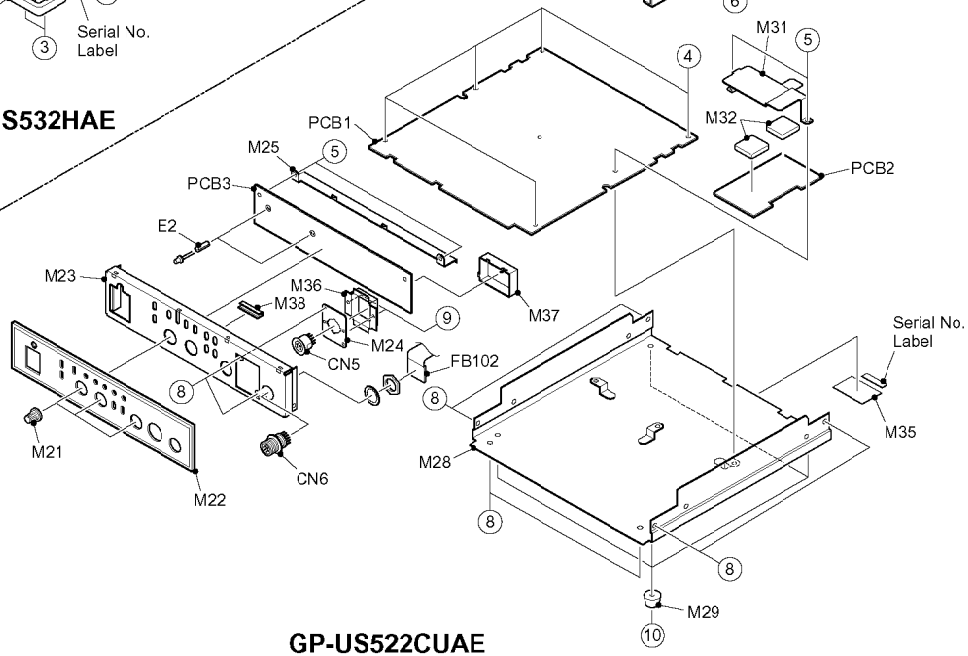




PACKAGING



GP-US522HAE/US532HAE



GP-US522CUAE

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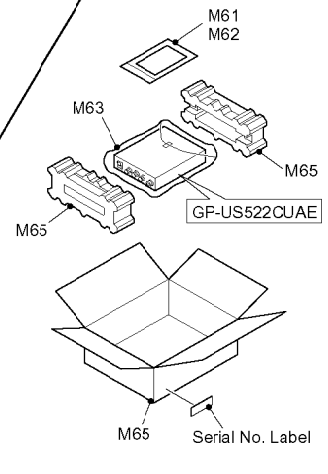

REPLACEMENT PARTS LIST

Important Notice

1. Components identified by " ⚠ " mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
2. RTL : Retention Time Limited (No longer available after discontinuing product).

REF. NO.		PART NO.	DESCRIPTION
3CCD COLOUR CAMERA CCU GP-US522CUAE			
MISCELLANEOUS			
FB102		P522CPRZ2B	Connector Flex Board
E1		YF40S1AXF2P	12V DC Input Terminal
CN1-4		YWBNCDRD	Connector
CN5		YWD0111N210	Title Input Connector
CN6		K1AB120A0004	Camera Cable Connector
CN7		K1FB109A0005	RGB/SYNC Connector
CN8		YWSDEB9P05	RS-232C Connector
CN9		YWTCS7848101	S-Video Output Connector
M21		YWV5RA0279B3	Knob
M22		YWV5WA2334A2	Front Panel
M23		YWV2KA1180A2	Front Chassis
M24		YWV2SB4466A4	Mounting Plate for Connector
M25		YWV2SA4467A3	Mounting Angle
M26		YWV5WA2335A2	Rear Panel
M27		YWV5GB0114A4	Cap
M28		YWV9AA2510A2	Main Chassis
M29		YWV5350WB01	Rubber Foot
M30		YWV5KB2165A2	Upper Case
M31		YWV2SA4458A3	Mounting Angle
M32		YWV7DA1066A4	Heat Sink
M33		K1ZZ00000264	RGB/SYNC Connector Holder
M34		YWHDLNA440	RS-232C Connector Holder
M35	⚠	V7QA5496A4	Main Label
M36		YWV2HA2138A4	Shield Case A
M37		YWV2HA2139A4	Shield Case B
M38		V4JA0485A3	Clip Spring
M39		YFV7MA0099A4	Caution Label
M41		YWV2HA2173A4	Earth Spring (x 3)
M42		YWV2HA2140A4	Earth Spring (x 5)

REF. NO.	PART NO.	DESCRIPTION
MAIN BOARD		
PCB1 (RTL)	P522AEKZ1A	Printed Circuit Board Assy
IC107	M74ACT541DTL	IC
IC108	TC74HCT04AF	IC
IC109	YWTC74HCT08F	IC
IC110	C0ABBA000025	IC
IC111	YWTC7S04FUL	IC
IC112	C0JBAE000098	IC
IC113	MC74HC595AF	IC
IC200	YWTC7S66FUL	IC
IC201	YWNJM3414AM	IC
IC202	YWTC7S66FUL	IC
IC203	YWNJM3414AM	IC
IC204	YWTC7S66FUL	IC
IC205	YWNJM3414AM	IC
IC206	C0JBAR000054	IC
IC212,213	YWTC7S66FUL	IC
IC214	YWTC4W53FUL	IC
IC216,217	YWTC7S66FUL	IC
IC218	YWTC4W53FUL	IC
IC220,221	YWTC7S66FUL	IC
IC222	YWTC4W53FUL	IC
IC224	C0ABBA000025	IC
IC225	YWUPC2391GP	IC
IC226	YWM62370GP	IC
IC227,228	YWTC4W53FUL	IC
IC233	YWTC7S08FUL	IC
IC234,235	C0ABBA000025	IC
IC400-402	YWCXD2311AR	IC
IC405	MC74AC00DTL	IC
IC406	MC74ACT74DTL	IC
IC408,410	MC74AC08DTL	IC
IC411	C0JBAB000187	IC
IC450	C2CBGF000086	IC
IC451	YWBR9040FE2	IC
IC452	UPD43256BGW	IC
IC454	MB90077PF104	IC
IC455	C1ZBZ0000987	IC
IC456	YWTC4W66FUL	IC
IC457	MC74AC32DTL	IC
IC458	MN13821-FP	IC
IC459	MN13821G	IC
IC460	YWTC7S04FUL	IC
IC461	MC74AC74DTL	IC
IC462	MC74AC32DTL	IC
IC463	C0JBAB000187	IC

REF. NO.	PART NO.	DESCRIPTION
IC464,465	MC74AC32DTL	IC
IC466	MC74AC08DTL	IC
IC467	M74ACT541DTL	IC
IC469	YWTC7S04FUL	IC
IC470	TC74HCT04AF	IC
IC471	MC74AC32DTL	IC
IC472	YWTC7S00FUL	IC
IC473	C0JBAE000092	IC
IC700,701	YWMB3775PFV	IC
IC702	C0ABBA000025	IC
IC703	YW78L02UATE2	IC
IC800	C1DB00000053	IC
IC801	YWTC4W53FUL	IC
IC802	YWNJM2267V11	IC
IC803	C0ABBA000057	IC
IC804	YWTC4W53FUL	IC
IC805	C0JBAE000087	IC
IC806	C0JBAR000054	IC
IC807,809	YWNJM2267VT1	IC
IC811	C0ABBA000025	IC
IC812	C0JBAR000054	IC
IC813	YWTC7S04FUL	IC
IC1100	YWNJM319M1	IC
IC1101	C0JBAZ000090	IC
IC1102	C0JBAE000087	IC
Q102	B1ABMD000002	Transistor
Q200-202	B1ABCF000059	Transistor
Q206	2SA15320CL	Transistor
Q207	XP6534	Transistor
Q208,211	B1ABCF000059	Transistor
Q214	2SA15320CL	Transistor
Q215	XP6534	Transistor
Q216,219	B1ABCF000059	Transistor
Q222	2SA15320CL	Transistor
Q223	XP6534	Transistor
Q224,226	B1ABCF000059	Transistor
Q227,228	B1ABCF000059	Transistor
Q240-242	B1CBBB000001	FET
Q246	B1ADMD000003	Transistor
Q247	B1ABCF000059	Transistor
Q248-250	B1ADCF000039	Transistor
Q251	B1ABCF000059	Transistor
Q252	B1ADCF000039	Transistor
Q400,401	B1ABCF000059	Transistor
Q403	2SC39310YL	Transistor
Q404	2SA15320CL	Transistor
Q405	B1GDCFJN0010	Transistor
Q406	B1ABCF000059	Transistor
Q407-409	YWXP0460100L	Transistor
Q700	B1ABCF000059	Transistor
Q701	B1ADCF000039	Transistor
Q702	2SJ132ZE1	FET
Q703	B1ABCF000059	Transistor
Q704	B1ADCF000039	Transistor
Q705	2SJ132ZE1	FET

REF. NO.	PART NO.	DESCRIPTION
Q706	B1ABCF000059	Transistor
Q707	B1ADCF000039	Transistor
Q708	2SJ132ZE1	FET
Q709	B1ABCF000059	Transistor
Q710	B1ADCF000039	Transistor
Q711	2SJ128ZE1	FET
Q712	B1ADCF000039	Transistor
Q713	B1ABCF000059	Transistor
Q714	B1ABMD000002	Transistor
Q715	B1ADCF000039	Transistor
Q716	B1ABCF000059	Transistor
Q717	B1ADCF000039	Transistor
Q718	B1ABCF000059	Transistor
Q719	DTA144EU-T106	Transistor
Q720	B1ADMD000003	Transistor
Q721	B1ABCF000059	Transistor
Q722	B1ADCF000039	Transistor
Q723,800	B1ABCF000059	Transistor
Q801-804	B1ABCF000059	Transistor
Q805	B1ABAC000008	Transistor
Q806,807	B1ABCF000059	Transistor
Q815	B1ADMD000003	Transistor
Q816,818	B1ABCF000059	Transistor
Q827	B1ABCF000059	Transistor
Q836,837	B1ADCF000039	Transistor
Q838,839	2SC4097QR6	Transistor
Q840,841	B1ABCF000059	Transistor
Q842,843	2SC4097QR6	Transistor
Q844	B1ADMD000003	Transistor
Q845	B1ABCF000059	Transistor
Q846	XP4501	Transistor
Q847-851	B1ABCF000059	Transistor
Q1100	B1ABCF000059	Transistor
D100	YWDA114	Diode
D400	YWDA227TL	Diode
D402-405	B0ADCC000006	Diode
D406	MA2Z372E0L	Diode
D700	MA2Z72900L	Diode
D701,702	YWSC80204L	Diode
D704,705	MA2Z11100L	Diode
D706	MA3X72700L	Diode
D707	B0ADEJ000005	Diode
D708	B0ADCJ000025	Diode
D709	YWSC80204L	Diode
D710	YWDA114	Diode
R12,13	ERJ3GEYJ123V	Carbon 12K ohms 1/16W
R14,15	ERJ3GEYJ112V	Carbon 1.1K ohms 1/16W
R16-19	D0GB102JA001	Carbon 1K ohms 1/16W
R20	ERJ3GEYJ123V	Carbon 12K ohms 1/16W
R30	D0GB102JA001	Carbon 1K ohms 1/16W
R31,32	D0YBR0000007	Carbon 0 ohm 1/16W
R34-36	D0YBR0000007	Carbon 0 ohm 1/16W
R37	D0GB103JA001	Carbon 10K ohms 1/16W
R38	ERJ3GEYJ303V	Carbon 30K ohms 1/16W
R50	YWR0816P182D	Metal 1.8K ohms 1/16W

REF. NO.	PART NO.	DESCRIPTION		REF. NO.	PART NO.	DESCRIPTION	
R51	YWR0016P103D	Metal	10K ohms 1/16W	R246	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R52	YWR0816P122D	Metal	1.2K ohms 1/16W	R247	ERJ3GEYJ560V	Carbon	56 ohms 1/16W
R53	YWR0816P682D	Metal	6.8K ohms 1/16W	R248	ERJ3GEYJ391V	Carbon	390 ohms 1/16W
R54	YWR0816P152D	Metal	1.5K ohms 1/16W	R249	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R55	YWR0016P153D	Metal	15K ohms 1/16W	R250	ERJ3GEYJ600V	Carbon	60 ohms 1/16W
R58-60	D0YBR0000007	Carbon	0 ohm 1/16W	R251	YWR0816P133D	Metal	13K ohms 1/16W
R61	ERJ3GEYJ152V	Carbon	1.5K ohms 1/16W	R252	ERJ3GEYJ394	Carbon	390K ohms 1/16W
R62	ERJ3GEYJ153V	Carbon	15K ohms 1/16W	R253	YWR0816P302D	Metal	3K ohms 1/16W
R74	D0YBR0000007	Carbon	0 ohm 1/16W	R254	YWR0816P153D	Metal	15K ohms 1/16W
R89	YWR0816P203D	Metal	20K ohms 1/16W	R255	D0GB102JA001	Carbon	1K ohms 1/16W
R90	YWR0816P303D	Metal	30K ohms 1/16W	R256,257	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R91	YWR0816P183D	Metal	18K ohms 1/16W	R258	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R92	YWR0816P303D	Metal	30K ohms 1/16W	R261	ERJ3GEYJ272V	Carbon	2.7K ohms 1/16W
R93	D0GB102JA001	Carbon	1K ohms 1/16W	R262	D0GB101JA001	Carbon	100 ohms 1/16W
R94	ERJ3GEYJ331V	Carbon	330 ohms 1/16W	R263	ERJ3GEYJ471V	Carbon	470 ohms 1/16W
R95	ERJ3GEYJ133V	Carbon	13K ohms 1/16W	R264	ERJ3GEYJ271V	Carbon	270 ohms 1/16W
R96	ERJ3GEYJ302V	Carbon	3K ohms 1/16W	R265	ERJ3GEYJ333V	Carbon	33K ohms 1/16W
R139	ERJ3GEYJ620V	Carbon	62 ohms 1/16W	R266,276	D0YBR0000007	Carbon	0 ohm 1/16W
R141	D0GB103JA001	Carbon	10K ohms 1/16W	R277	ERJ3GEYJ391V	Carbon	390 ohms 1/16W
R143	ERJ3GEYJ620V	Carbon	62 ohms 1/16W	R278	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R145	ERJ3GEYJ153V	Carbon	15K ohms 1/16W	R279	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R146	ERJ3GEYJ100V	Carbon	10 ohms 1/16W	R280	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R147,148	ERJ3GEYJ620V	Carbon	62 ohms 1/16W	R281	ERJ3GEYJ560V	Carbon	56 ohms 1/16W
R149	YWR0816P472D	Metal	4.7K ohms 1/16W	R282	ERJ3GEYJ391V	Carbon	390 ohms 1/16W
R150,151	ERJ3GEYJ620V	Carbon	62 ohms 1/16W	R283	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R152	ERJ3GEYJ100V	Carbon	10 ohms 1/16W	R284	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R153	ERJ3GEYJ150V	Carbon	15 ohms 1/16W	R285	YWR0816P133D	Metal	13K ohms 1/16W
R154	ERJ3GEYJ105V	Carbon	1M ohms 1/16W	R286	ERJ3GEYJ394	Carbon	390K ohms 1/16W
R156	ERJ3GEYJ471V	Carbon	470 ohms 1/16W	R287	YWR0816P302D	Metal	3K ohms 1/16W
R157	D0GB102JA001	Carbon	1K ohms 1/16W	R288	YWR0816P153D	Metal	15K ohms 1/16W
R160	YWR0816R433D	Metal	43K ohms 1/16W	R289	D0GB102JA001	Carbon	1K ohms 1/16W
R161	YWR0816P243D	Metal	24K ohms 1/16W	R290,291	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R162	D0GB103JA001	Carbon	10K ohms 1/16W	R292	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R163	YWR0816P102D	Metal	1K ohms 1/16W	R295	ERJ3GEYJ272V	Carbon	2.7K ohms 1/16W
R166	YWR0816P103D	Metal	10K ohms 1/16W	R296	D0GB101JA001	Carbon	100 ohms 1/16W
R167	YWR0816R433D	Metal	43K ohms 1/16W	R297	ERJ3GEYJ471V	Carbon	470 ohms 1/16W
R168,201	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W	R298	ERJ3GEYJ271V	Carbon	270 ohms 1/16W
R202	D0GB104JA001	Carbon	100K ohms 1/16W	R299	ERJ3GEYJ333V	Carbon	33K ohms 1/16W
R203	ERJ3GEYJ224V	Carbon	220K ohms 1/16W	R300,310	D0YBR0000007	Carbon	0 ohm 1/16W
R204	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W	R311	ERJ3GEYJ391V	Carbon	390 ohms 1/16W
R205	D0GB103JA001	Carbon	10K ohms 1/16W	R312	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R207	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W	R313	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R208	D0GB104JA001	Carbon	100K ohms 1/16W	R314	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R209	ERJ3GEYJ224V	Carbon	220K ohms 1/16W	R315	ERJ3GEYJ560V	Carbon	56 ohms 1/16W
R210	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W	R316	ERJ3GEYJ391V	Carbon	390 ohms 1/16W
R211	D0GB103JA001	Carbon	10K ohms 1/16W	R317	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R213	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W	R318	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R214	D0GB104JA001	Carbon	100K ohms 1/16W	R319	YWR0816P133D	Metal	13K ohms 1/16W
R215	ERJ3GEYJ224V	Carbon	220K ohms 1/16W	R320	ERJ3GEYJ394	Carbon	390K ohms 1/16W
R216	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W	R321	YWR0816P302D	Metal	3K ohms 1/16W
R217-219	D0GB103JA001	Carbon	10K ohms 1/16W	R322	YWR0816P153D	Metal	15K ohms 1/16W
R242	D0YBR0000007	Carbon	0 ohm 1/16W	R323	D0GB102JA001	Carbon	1K ohms 1/16W
R243	ERJ3GEYJ391V	Carbon	390 ohms 1/16W	R324,325	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R244	ERJ3GEYJ750V	Carbon	75 ohms 1/16W	R326	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R245	ERJ3GEYJ680V	Carbon	68 ohms 1/16W	R329	ERJ3GEYJ272V	Carbon	2.7K ohms 1/16W

REF. NO.	PART NO.	DESCRIPTION		REF. NO.	PART NO.	DESCRIPTION	
R330	D0GB101JA001	Carbon	100 ohms 1/16W	R609	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R331	ERJ3GEYJ471V	Carbon	470 ohms 1/16W	R610	D0YBR0000007	Carbon	0 ohm 1/16W
R332	ERJ3GEYJ271V	Carbon	270 ohms 1/16W	R611,613	D0GB103JA001	Carbon	10K ohms 1/16W
R333	ERJ3GEYJ333V	Carbon	33K ohms 1/16W	R619,620	ERJ3GEYJ912V	Carbon	9.1K ohms 1/16W
R334	D0YBR0000007	Carbon	0 ohm 1/16W	R621	ERJ3GEYJ392V	Carbon	3.9K ohms 1/16W
R338	D0GB102JA001	Carbon	1K ohms 1/16W	R622	D0YBR0000007	Carbon	0 ohm 1/16W
R339	D0GB103JA001	Carbon	10K ohms 1/16W	R623,624	ERJ3GEYJ473V	Carbon	47K ohms 1/16W
R340	YWR0816R224D	Metal	220K ohms 1/16W	R625	ERJ3GEYJ392V	Carbon	3.9K ohms 1/16W
R341	YWR0816P153D	Metal	15K ohms 1/16W	R626	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R342	YWR0816P822D	Metal	8.2K ohms 1/16W	R627,628	ERJ3GEYJ203V	Carbon	20K ohms 1/16W
R343	YWR0816R224D	Metal	220K ohms 1/16W	R629	D0GB103JA001	Carbon	10K ohms 1/16W
R344-350	D0GB103JA001	Carbon	10K ohms 1/16W	R630	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R351	D0YBR0000007	Carbon	0 ohm 1/16W	R631,632	D0GB101JA001	Carbon	100 ohms 1/16W
R354	D0GB103JA001	Carbon	10K ohms 1/16W	R634	D0GB101JA001	Carbon	100 ohms 1/16W
R355	ERJ3GEYJ123V	Carbon	12K ohms 1/16W	R635-637	D0GB103JA001	Carbon	10K ohms 1/16W
R356	ERJ3GEYJ682V	Carbon	6.8K ohms 1/16W	R638	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R367,368	D0GB103JA001	Carbon	10K ohms 1/16W	R639	ERJ3GEYJ221V	Carbon	220 ohms 1/16W
R369,370	ERJ3GEYJ682V	Carbon	6.8K ohms 1/16W	R640	ERJ3GEYJ105V	Carbon	1M ohms 1/16W
R371	ERJ3GEYJ123V	Carbon	12K ohms 1/16W	R642-649	ERJ3GEYJ152V	Carbon	1.5K ohms 1/16W
R372-374	ERJ3GEYJ152V	Carbon	1.5K ohms 1/16W	R650-655	D0GB101JA001	Carbon	100 ohms 1/16W
R380,381	ERJ3GEYJ100V	Carbon	10 ohms 1/16W	R656-661	D0GB103JA001	Carbon	10K ohms 1/16W
R400	D0GB103JA001	Carbon	10K ohms 1/16W	R662	D0YBR0000007	Carbon	0 ohm 1/16W
R402	YWR0816P511D	Metal		R663	D0GB101JA001	Carbon	100 ohms 1/16W
R404,413	D0YBR0000007	Carbon	0 ohm 1/16W	R664	D0GB103JA001	Carbon	10K ohms 1/16W
R414,417	D0YBR0000007	Carbon	0 ohm 1/16W	R665	ERJ3GEYJ122V	Carbon	1.2K ohms 1/16W
R419,421	D0YBR0000007	Carbon	0 ohm 1/16W	R666,667	D0GB101JA001	Carbon	100 ohms 1/16W
R424-426	D0YBR0000007	Carbon	0 ohm 1/16W	R668	D0YBR0000007	Carbon	0 ohm 1/16W
R428	D0YBR0000007	Carbon	0 ohm 1/16W	R670	D0GB101JA001	Carbon	100 ohms 1/16W
R431	YWR0816P151D	Metal	150 ohms 1/16W	R671	ERJ3GEYJ473V	Carbon	47K ohms 1/16W
R433-434	D0YBR0000007	Carbon	0 ohm 1/16W	R673	D0GB103JA001	Carbon	10K ohms 1/16W
R437,439	D0YBR0000007	Carbon	0 ohm 1/16W	R674-682	D0YBR0000007	Carbon	0 ohm 1/16W
R445	YWR0816P301D	Metal	300 ohms 1/16W	R683-687	D0GB103JA001	Carbon	10K ohms 1/16W
R447,449	D0YBR0000007	Carbon	0 ohm 1/16W	R688,689	D0GB101JA001	Carbon	100 ohms 1/16W
R454,458	D0YBR0000007	Carbon	0 ohm 1/16W	R692,693	ERJ3GEYJ473V	Carbon	47K ohms 1/16W
R459,461	D0YBR0000007	Carbon	0 ohm 1/16W	R696	D0GB101JA001	Carbon	100 ohms 1/16W
R464-473	D0GB101JA001	Carbon	100 ohms 1/16W	R697,698	D0YBR0000007	Carbon	0 ohm 1/16W
R476-478	D0GB101JA001	Carbon	100 ohms 1/16W	R700	YWR0816P133D	Metal	13K ohms 1/16W
R482-484	D0GB101JA001	Carbon	100 ohms 1/16W	R702	D0GB104JA001	Carbon	100K ohms 1/16W
R486-500	D0GB101JA001	Carbon	100 ohms 1/16W	R703	YWR0816R363D	Metal	36K ohms 1/16W
R506	D0GB102JA001	Carbon	1K ohms 1/16W	R704	YWR0816P183D	Metal	18K ohms 1/16W
R508-521	ERJ3GEYJ473V	Carbon	47K ohms 1/16W	R705	D0GB102JA001	Carbon	1K ohms 1/16W
R523-534	ERJ3GEYJ473V	Carbon	47K ohms 1/16W	R710	ERJ6GEYJ472V	Carbon	4.7K ohms 1/16W
R535,536	D0GB104JA001	Carbon	100K ohms 1/16W	R711	ERJ3GEYJ470V	Carbon	47 ohms 1/16W
R551-554	ERJ3GEYJ100V	Carbon	10 ohms 1/16W	R712	YWR0816P123D	Metal	12K ohms 1/16W
R565	D0YBR0000007	Carbon	0 ohm 1/16W	R713	YWR0816P202D	Metal	2K ohms 1/16W
R590,591	ERJ3GEYJ912V	Carbon	9.1K ohms 1/16W	R714	ERJ6GEYJ472V	Carbon	4.7K ohms 1/16W
R592,593	ERJ3GEYJ392V	Carbon	3.9K ohms 1/16W	R715	ERJ3GEYJ470V	Carbon	47 ohms 1/16W
R594	ERJ3GEYJ473V	Carbon	47K ohms 1/16W	R716	YWR0816P183D	Metal	18K ohms 1/16W
R598	ERJ3GEYJ221V	Carbon	220 ohms 1/16W	R717	YWR0816P622D	Metal	6.2K ohms 1/16W
R599	D0GB101JA001	Carbon	100 ohms 1/16W	R718	ERJ6GEYJ472V	Carbon	4.7K ohms 1/16W
R600	ERJ3GEYJ912V	Carbon	9.1K ohms 1/16W	R719	ERJ3GEYJ470V	Carbon	47 ohms 1/16W
R601	ERJ3GEYJ392V	Carbon	3.9K ohms 1/16W	R720	YWR0816P133D	Metal	13K ohms 1/16W
R602-604	D0GB101JA001	Carbon	100 ohms 1/16W	R721	YWR0816P752D	Metal	7.5K ohms 1/16W
R605-607	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W	R722	ERJ6GEYJ472V	Carbon	4.7K ohms 1/16W
R608	D0GB103JA001	Carbon	10K ohms 1/16W	R723	ERJ3GEYJ470V	Carbon	47 ohms 1/16W

REF. NO.	PART NO.	DESCRIPTION	
R724	ERJ6GEYJ101V	Carbon	100 ohms 1/16W
R725,726	D0GB102JA001	Carbon	1K ohms 1/16W
R727	YWR0816R244D	Metal	240K ohms 1/16W
R728	YWR0816R393D	Metal	39K ohms 1/16W
R729	YWR0016R164D	Metal	160K ohms 1/16W
R730	YWR0816P153D	Metal	15K ohms 1/16W
R731,732	D0GB102JA001	Carbon	1K ohms 1/16W
R733	YWR0816P153D	Metal	15K ohms 1/16W
R734	YWR0816R393D	Metal	39K ohms 1/16W
R735	YWR0816P203D	Metal	20K ohms 1/16W
R736	YWR0816P103D	Metal	10K ohms 1/16W
R740,741	ERJ3GEYJ303V	Carbon	30K ohms 1/16W
R742	ERJ3GEYJ512V	Carbon	5.1K ohms 1/16W
R743	D0GB103JA001	Carbon	10K ohms 1/16W
R744	YWR0816P103D	Metal	10K ohms 1/16W
R745	YWR0816P512D	Metal	5.1K ohms 1/16W
R750	D0GB103JA001	Carbon	10K ohms 1/16W
R751	D0GB104JA001	Carbon	100K ohms 1/16W
R752	ERJ3GEYJ512V	Carbon	5.1K ohms 1/16W
R753	D0GB104JA001	Carbon	100K ohms 1/16W
R800-805	D0GB101JA001	Carbon	100 ohms 1/16W
R806,808	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R810,811	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R812-814	ERJ3GEYJ473V	Carbon	47K ohms 1/16W
R815,816	ERJ3GEYJ221V	Carbon	220 ohms 1/16W
R818,819	D0GB222JA001	Carbon	2.2K ohms 1/16W
R820	D0GB102JA001	Carbon	1K ohms 1/16W
R821	D0YBR0000007	Carbon	0 ohm 1/16W
R822	ERJ3GEYJ132V	Carbon	1.3K ohms 1/16W
R823	D1BB91000001	Metal	910 ohms 1/16W
R824	YWR0816P162D	Metal	1.6K ohms 1/16W
R825	ERJ3GEYJ132V	Carbon	1.3K ohms 1/16W
R826,827	D0GB101JA001	Carbon	100 ohms 1/16W
R828	ERJ3GEYJ302V	Carbon	3K ohms 1/16W
R829	ERJ3GEYJ202V	Carbon	2K ohms 1/16W
R830	D0GB222JA001	Carbon	2.2K ohms 1/16W
R831	ERJ3GEYJ152V	Carbon	1.5K ohms 1/16W
R832	YWR0816P222D	Metal	2.2K ohms 1/16W
R833	D0GB101JA001	Carbon	100 ohms 1/16W
R834	ERJ3GEYJ200V	Carbon	20 ohms 1/16W
R835	YWR0816P202D	Metal	2K ohms 1/16W
R836	D1BB33000001	Metal	330 ohms 1/16W
R837	YWR0816P162D	Metal	1.6K ohms 1/16W
R838	YWR0816R363D	Metal	36K ohms 1/16W
R839	ERJ3GEYJ751V	Carbon	750 ohms 1/16W
R840	D0GB101JA001	Carbon	100 ohms 1/16W
R841	D0YBR0000007	Carbon	0 ohm 1/16W
R842	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R843	YWR0816P202D	Metal	2K ohms 1/16W
R844	YWR0816R363D	Metal	36K ohms 1/16W
R845	YWR0816P222D	Metal	2.2K ohms 1/16W
R846	ERJ3GEYJ751V	Carbon	750 ohms 1/16W
R847	D0GB101JA001	Carbon	100 ohms 1/16W
R848	ERJ3GEYJ152V	Carbon	1.5K ohms 1/16W
R849,850	ERJ3GEYJ750V	Carbon	75 ohms 1/16W

REF. NO.	PART NO.	DESCRIPTION	
R051	D0YBR0000007	Carbon	0 ohm 1/16W
R852	YWR0816P123D	Metal	12K ohms 1/16W
R853	D1BB30R00001	Metal	0 ohm 1/16W
R854	YWR0816P163D	Metal	16K ohms 1/16W
R055	D1BD27010001	Metal	2.7K ohms 1/16W
R856	YWR0816P273D	Metal	27K ohms 1/16W
R857	YWR0816P202D	Metal	2K ohms 1/16W
R858	D0GB101JA001	Carbon	100 ohms 1/16W
R860-862	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R863	ERJ3GEYJ221V	Carbon	220 ohms 1/16W
R864	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R878	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R882	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R883	D0GB102JA001	Carbon	1K ohms 1/16W
R884	YWR0816P183D	Metal	18K ohms 1/16W
R885	YWR0816P303D	Metal	30K ohms 1/16W
R886	YWR0816P203D	Metal	20K ohms 1/16W
R887	YWR0816P303D	Metal	30K ohms 1/16W
R888	ERJ3GEYJ221V	Carbon	220 ohms 1/16W
R889	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R890,891	YWR0816P122D	Metal	1.2K ohms 1/16W
R906	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R911	ERJ3GEYJ221V	Carbon	220 ohms 1/16W
R913	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R929	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R933	ERJ3GEYJ223V	Carbon	22K ohms 1/16W
R934	D0GB103JA001	Carbon	10K ohms 1/16W
R935	D0GB102JA001	Carbon	1K ohms 1/16W
R936	D0GB562JA001	Carbon	5.6K ohms 1/16W
R937	D0GB103JA001	Carbon	10K ohms 1/16W
R938	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R939	D0GB102JA001	Carbon	1K ohms 1/16W
R940	D0GB103JA001	Carbon	10K ohms 1/16W
R941	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R942	D0GB103JA001	Carbon	10K ohms 1/16W
R943	ERJ3GEYJ392V	Carbon	3.9K ohms 1/16W
R944	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R945	ERJ3GEYJ270	Carbon	27 ohms 1/6W
R946,947	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R948	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R949	D0GB102JA001	Carbon	1K ohms 1/16W
R950	YWR0816R563D	Metal	56K ohms 1/16W
R951	YWR0816P303D	Metal	30K ohms 1/16W
R954-958	ERJ3GEYJ221V	Carbon	220 ohms 1/16W
R959,960	D0GB103JA001	Carbon	10K ohms 1/16W
R963-967	D0GB222JA001	Carbon	2.2K ohms 1/16W
R968	D0GB102JA001	Carbon	1K ohms 1/16W
R969	YWR0816P912D	Metal	9.1K ohms 1/16W
R970	D1BB39010001	Metal	3.9K ohms 1/16W
R1100	D0GB104JA001	Carbon	100K ohms 1/16W
R1101	ERJ3GEYJ272V	Carbon	2.7K ohms 1/16W
R1102	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R1103	YWR0816P103D	Metal	10K ohms 1/16W
R1104	YWR0816P472D	Metal	4.7K ohms 1/16W
R1105	D0GB102JA001	Carbon	1K ohms 1/16W

REF. NO.	PART NO.	DESCRIPTION	
R1408,1409	D0GB103JA001	Carbon	10K ohms 1/16W
R1419,1420	D0GB102JA001	Carbon	1K ohms 1/16W
R1422	D0YBR0000007	Carbon	0 ohm 1/16W
R1423	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R1424,1425	D0GB101JA001	Carbon	100 ohms 1/16W
R1426	D0GB102JA001	Carbon	1K ohms 1/16W
R1427	D0GB101JA001	Carbon	100 ohms 1/16W
R1428-1431	D0GB103JA001	Carbon	10K ohms 1/16W
R1435	D0YBR0000007	Carbon	0 ohm 1/16W
R1438,1440	D0YBR0000007	Carbon	0 ohm 1/16W
R1450-1453	D0YBR0000007	Carbon	0 ohm 1/16W
R1459	D0GB102JA001	Carbon	1K ohms 1/16W
R1460	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R1461	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R1463	D0GB102JA001	Carbon	1K ohms 1/16W
R1464	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R1465	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R1467	D0GB102JA001	Carbon	1K ohms 1/16W
R1468	ERJ3GEYJ680V	Carbon	68 ohms 1/16W
R1469	ERJ3GEYJ331V	Carbon	330 ohms 1/16W
R1470	D0YBR0000007	Carbon	0 ohm 1/16W
R1475	D0GB101JA001	Carbon	100 ohms 1/16W
R1477	D0YBR0000007	Carbon	0 ohm 1/16W
R1479-1481	D0GB101JA001	Carbon	100 ohms 1/16W
R1500-1502	D0YBR0000007	Carbon	0 ohm 1/16W
R1506	D0GB101JA001	Carbon	100 ohms 1/16W
R1507	ERJ3GEYJ122V	Carbon	1.2K ohms 1/16W
R1508	ERJ3GEYJ272V	Carbon	2.7K ohms 1/16W
R1509	ERJ3GEYJ620V	Carbon	62 ohms 1/16W
R1510	D0YBR0000007	Carbon	0 ohm 1/16W
C110	YWSK41C336MC	Tantalum	33 µF 16V
C125	F1H1H300A004	Ceramic	30 pF
C126-128	MCUV1E104ZFV	Ceramic	0.1 µF
C129	F1H1H332A013	Ceramic	3300 pF
C130	YW5X103K2VT	Ceramic	0.01 µF
C131	F1H1H101A004	Ceramic	100 pF
C132	EEVHB1C220R	Electrolytic	22 µF 16V
C133	MCUV1E104ZFV	Ceramic	0.1 µF
C134	YW5X103K2VT	Ceramic	0.01 µF
C135	EEVHB1C470P	Electrolytic	47 µF 16V
C136	YWSK41C336MC	Tantalum	33 µF 16V
C137	ECEA0JU331	Electrolytic	330 µF 6.3V
C138	MCUV1H102KBV	Ceramic	1000 pF
C140	F1H1H180A004	Ceramic	18 pF
C141	F1H1H390A004	Ceramic	39 pF
C200	F1J1H102A400	Ceramic	1000 pF
C201	MCUN1C224ZFN	Ceramic	0.22 µF
C202	F1J1H102A400	Ceramic	1000 pF
C203	MCUN1C224ZFN	Ceramic	0.22 µF
C204	F1J1H102A400	Ceramic	1000 pF
C205	MCUN1C224ZFN	Ceramic	0.22 µF
C206	EEVHB1C100R	Electrolytic	10 µF 16V
C207	MCUV1E104ZFV	Ceramic	0.1 µF
C219	SK31E226MRD	Tantalum	22 µF 25V
C230	F1H1H300A004	Ceramic	30 pF

REF. NO.	PART NO.	DESCRIPTION	
C231,232	YWSK1E474KRA	Electrolytic	0.47 µF 25V
C233,234	YW5X103K2VT	Ceramic	0.01 µF
C235	YWSK31C226KC	Tantalum	22 µF 16V
C238	SK31E226MRD	Tantalum	22 µF 25V
C246	F1H1H300A004	Ceramic	30 pF
C247,248	YWSK1E474KRA	Electrolytic	0.47 µF 25V
C249,250	YW5X103K2VT	Ceramic	0.01 µF
C251	YWSK31C226KC	Tantalum	22 µF 16V
C254	SK31E226MRD	Tantalum	22 µF 25V
C262	F1H1H300A004	Ceramic	30 pF
C263,264	YWSK1E474KRA	Electrolytic	0.47 µF 25V
C265,266	YW5X103K2VT	Ceramic	0.01 µF
C267	YWSK31C226KC	Tantalum	22 µF 16V
C270	MCUV1E104ZFV	Ceramic	0.1 µF
C271	YWSK41C106KB	Tantalum	10 µF 16V
C272,273	EEVHP1E4R7R	Electrolytic	4.7 µF 25V
C274	F1J1C224A054	Ceramic	0.22 µF
C275	MCUV1E104ZFV	Ceramic	0.1 µF
C276	F1J1C224A054	Ceramic	0.22 µF
C277	YWSK41A685MA	Tantalum	6.8 µF 10V
C278	SK21A226MRC	Electrolytic	22 µF 10V
C279-283	YW5X103K2VT	Ceramic	0.01 µF
C284-286	SK21A226MRC	Electrolytic	22 µF 10V
C287,288	MCUV1E104ZFV	Ceramic	0.1 µF
C289,290	F3F1V224A003	Electrolytic	0.22 µF 35V
C291	MCUV1E104ZFV	Ceramic	0.1 µF
C292	SK21A226MRC	Electrolytic	22 µF 10V
C293	YW5X103K2VT	Ceramic	0.01 µF
C294,295	SK21A226MRC	Electrolytic	22 µF 10V
C296,297	MCUV1E104ZFV	Ceramic	0.1 µF
C298	SK21A226MRC	Electrolytic	22 µF 10V
C299,300	MCUV1E104ZFV	Ceramic	0.1 µF
C301-303	YW5X103K2VT	Ceramic	0.01 µF
C304-307	F3F1V224A003	Electrolytic	0.22 µF 35V
C308-311	MCUV1E104ZFV	Ceramic	0.1 µF
C312	YWSK31C226KC	Tantalum	22 µF 16V
C313,314	MCUV1E104ZFV	Ceramic	0.1 µF
C315	YW400225FZT	Ceramic	2.2 µF
C322-324	MCUV1E104ZFV	Ceramic	0.1 µF
C326	SK21A226MRC	Electrolytic	22 µF 10V
C327	EEVHP1E4R7R	Electrolytic	4.7 µF 25V
C328-335	MCUV1E104ZFV	Ceramic	0.1 µF
C337	YWSK41C106KB	Tantalum	10 µF 16V
C338,339	MCUV1E104ZFV	Ceramic	0.1 µF
C340	YWSK1V104KRA	Electrolytic	0.1 µF 35V
C341	YWSK41C106KB	Tantalum	10 µF 16V
C344	F3F0J1060001	Electrolytic	10 µF 6.3V
C347-349	EEVHB0J330R	Electrolytic	33 µF 6.3V
C350	SK31E226MRD	Tantalum	22 µF 25V
C351-353	MCUV1E104ZFV	Ceramic	0.1 µF
C355,356	SK31A106KRB	Electrolytic	10µF 10V
C358	YWSK31C226KC	Tantalum	22 µF 16V
C359	SK31A106KRB	Electrolytic	10 µF 10V
C360	YWSK31C226KC	Tantalum	22 µF 16V
C364	MCUV1E104ZFV	Ceramic	0.1 µF

REF. NO.	PART NO.	DESCRIPTION	
C400-403	YWSK41A476MC	Tantalum	47 µF 10V
C406	MCUV1E104ZFV	Ceramic	0.1 µF
C407	SK31A106KRB	Electrolytic	10 µF 10V
C408	F1H1H100A017	Ceramic	10 pF
C409,414	MCUV1E104ZFV	Ceramic	0.1 µF
C416	MCUV1E104ZFV	Ceramic	0.1 µF
C418	F1H1H330A231	Ceramic	33 pF
C419	MCUV1E104ZFV	Ceramic	0.1 µF
C420	F1H1H681A004	Ceramic	680 pF
C421	F1H1H330A231	Ceramic	33 pF
C423,425	MCUV1E104ZFV	Ceramic	0.1 µF
C426,427	MCUV1E104ZFV	Ceramic	0.1 µF
C431,433	MCUV1E104ZFV	Ceramic	0.1 µF
C434	MCUV1E104ZFV	Ceramic	0.1 µF
C435	SK31A106KRB	Electrolytic	10 µF 10V
C436-439	MCUV1E104ZFV	Ceramic	0.1 µF
C443,445	MCUV1E104ZFV	Ceramic	0.1 µF
C446,447	MCUV1E104ZFV	Ceramic	0.1 µF
C448	SK31A106KRB	Electrolytic	10 µF 10V
C449-451	MCUV1E104ZFV	Ceramic	0.1 µF
C455,457	MCUV1E104ZFV	Ceramic	0.1 µF
C458,459	MCUV1E104ZFV	Ceramic	0.1 µF
C460	SK31A106KRB	Electrolytic	10 µF 10V
C461-464	MCUV1E104ZFV	Ceramic	0.1 µF
C467	MCUV1E104ZFV	Ceramic	0.1 µF
C468	SK31A106KRB	Electrolytic	10 µF 10V
C487	MCUV1E104ZFV	Ceramic	0.1 µF
C488,495	SK31A106KRB	Electrolytic	10 µF 10V
C496	SK31A106KRB	Electrolytic	10 µF 10V
C497	YWSK41A476MC	Tantalum	47 µF 10V
C498,499	MCUV1E104ZFV	Ceramic	0.1 µF
C500	F1H1H101A004	Ceramic	100 pF
C501	YWSK41A476MC	Tantalum	47µF 10V
C502,503	MCUV1E104ZFV	Ceramic	0.1 µF
C505-507	MCUV1E104ZFV	Ceramic	0.1 µF
C510-512	MCUV1E104ZFV	Ceramic	0.1 µF
C513	YWSK41A476MC	Tantalum	47 µF 10V
C515	MCUV1E104ZFV	Ceramic	0.1 µF
C516	YWSK41A476MC	Tantalum	47 µF 10V
C517,518	MCUV1E104ZFV	Ceramic	0.1 µF
C520,521	MCUV1E104ZFV	Ceramic	0.1 µF
C522	F1H1H300A004	Ceramic	30 pF
C523	F1H1H391A004	Ceramic	39 pF
C524	MCUV1E104ZFV	Ceramic	0.1 µF
C525	SK31A106KRB	Electrolytic	10 µF 10V
C526	MCUV1E104ZFV	Ceramic	0.1 µF
C527	SK31A106KRB	Electrolytic	10 µF 10V
C528	MCUV1E104ZFV	Ceramic	0.1 µF
C529	SK31A106KRB	Electrolytic	10 µF 10V
C530-532	MCUV1E104ZFV	Ceramic	0.1 µF
C533	SK31A106KRB	Electrolytic	10 µF 10V
C534	MCUV1H102KBV	Ceramic	1000 pF
C535,539	MCUV1E104ZFV	Ceramic	0.1 µF
C540,542	MCUV1E104ZFV	Ceramic	0.1 µF
C700	F1H1H331A650	Ceramic	330 pF

REF. NO.	PART NO.	DESCRIPTION	
C701,702	F1J1C224A054	Ceramic	0.22 µF
C703	MCUV1E104KBN	Ceramic	0.1 µF
C704	MCUV1E104ZFV	Ceramic	0.1 µF
C705,706	F1J1C224A054	Ceramic	0.22 µF
C707	MCUV1E104KBN	Ceramic	0.1 µF
C708-711	MCUV1E104ZFV	Ceramic	0.1 µF
C720,721	YW20SM68M	Electrolytic	68 µF 20V
C722	ECGC1BB150R	Semiconductor	15 pF
C723	YWSK1V104KRA	Electrolytic	0.1 µF 35V
C724	EEVHB1C470P	Electrolytic	47 µF 16V
C725	ECGC0JB330R	Semiconductor	33 pF
C726	YWSK1V104KRA	Electrolytic	0.1 µF 35V
C727	EEVHB0J101P	Electrolytic	100 µF 6.3V
C728	ECGC0JB330R	Semiconductor	33 pF
C729	YWSK1V104KRA	Electrolytic	0.1 µF 35V
C730	EEVHB0G221P	Electrolytic	220 µF 4V
C731	F1H1H152A013	Ceramic	1500 pF
C732	EEVHB1V220P	Electrolytic	22 µF 35V
C733	YW5X103K2VT	Ceramic	0.01 µF
C734	EEVHB1V220P	Electrolytic	22 µF 35V
C735	CX43Y106M2T	Ceramic	10 µF
C736	EEVHB1E330P	Electrotytic	33 µF 25V
C737	SK21V474KRA	Electrolytic	0.47 µF 35V
C738	CX43Y106M2T	Ceramic	10 µF
C739	YW5X103K2VT	Ceramic	0.01 µF
C740	EEVHB1C470P	Electrolytic	47 µF 16V
C741	EEVHB0J101P	Electrolytic	100 µF 6.3V
C742	MCUV1E104ZFV	Ceramic	0.1 µF
C743,744	EEVHB0G101R	Electrolytic	100 µF 4V
C745	EEVHB0J101P	Electrolytic	100 µF 6.3V
C750	MCUV1E104ZFV	Ceramic	0.1 µF
C751	MCUV1E104ZFV	Ceramic	0.1 µF
C756	YWSK21V475KR	Tantalum	4.7 µF 35V
C797,798	EEUFB1E820	Electrolytic	82 µF 25V
C799	EEUFB1V820	Electrolytic	82 µF 35V
C800-803	EEVHB1C100R	Electrolytic	10 µF 16V
C804	YW5X103K2VT	Ceramic	0.01 µF
C805	MCUV1E104ZFV	Ceramic	0.1 µF
C806	YW5X103K2VT	Ceramic	0.01 µF
C807	YWSK31C226KC	Tantalum	22 µF 16V
C809	F1J1C105A004	Ceramic	1 µF
C810	EEVHB0J101P	Electrolytic	100 µF 6.3V
C811,812	EEVHB1C220R	Electrolytic	22 µF 16V
C813	EEVHB0J101P	Electrolytic	100 µF 6.3V
C814	F1J1C105A004	Ceramic	1 µF
C815	EEVHB1C220R	Electrolytic	22 µF 16V
C816	EEVHB0J101P	Electrolytic	100 µF 6.3V
C817	YWSK31C226KC	Tantalum	22 µF 16V
C818	YW5X103K2VT	Ceramic	0.01 µF
C819,820	MCUV1E104ZFV	Ceramic	0.1 µF
C821	YWSK41C106KB	Tantalum	10 µF 16V
C822,823	MCUV1E104ZFV	Ceramic	0.1 µF
C824,825	YWSK41C106KB	Tantalum	10 µF 16V
C827	F1J1C105A004	Ceramic	1 µF
C833	YWSK31C226KC	Tantalum	22 µF 16V

REF. NO.	PART NO.	DESCRIPTION	
C034	SK31A106KRB	Electrolytic	10 µF 10V
C836	YWSK41C106KB	Tantalum	10 µF 16V
C837	F1J1C105A004	Ceramic	1 µF
C842	YWSK41C106KB	Tantalum	10 µF 16V
C044	F1J1C105A004	Ceramic	1 µF
C850	F1H1H390A004	Ceramic	39 pF
C851,852	F1H1H101A004	Ceramic	100 pF
C853	F1H1H391A004	Ceramic	39 pF
C854	F1H1H101A004	Ceramic	100 pF
C855	F1H1H681A004	Ceramic	680 pF
C857	EEVHB1A330R	Electrolytic	33 µF 10V
C858,860	SK31E226MRD	Tantalum	22 µF 25V
C861	YWSK41C106KB	Tantalum	10 µF 16V
C862	YWSK31C226KC	Tantalum	22 µF 16V
C863,864	F1H1H150A004	Ceramic	15 pF
C865-868	MCUV1H470JCV	Ceramic	47 pF
C869	F1H1H150A004	Ceramic	15 pF
C870,871	MCUV1H470JCV	Ceramic	47 pF
C872	F1H1H150A004	Ceramic	15 pF
C873,874	MCUV1H470JCV	Ceramic	47 pF
C875	F1H1H150A004	Ceramic	15 pF
C876,877	MCUV1H470JCV	Ceramic	47 pF
C878	MCUV1E104ZFV	Ceramic	0.1 µF
C879	YWSK41C106KB	Tantalum	10 µF 16V
C880	MCUV1E104ZFV	Ceramic	0.1 µF
C881	EEVHB1C220R	Electrolytic	22 µF 16V
C882,883	EEVHB0J101P	Electrolytic	100 µF 6.3V
C884	EEVHB1C220R	Electrolytic	22 µF 16V
C885	EEVHB0J101P	Electrolytic	100 µF 6.3V
C886	EEVHB1C220R	Electrolytic	22 µF 16V
C887	MCUV1E104ZFV	Ceramic	0.1 µF
C888	YWSK41C106KB	Tantalum	10 µF 16V
C889	MCUV1E104ZFV	Ceramic	0.1 µF
C890	YWSK41C106KB	Tantalum	10 µF 16V
C891-893	EEVHB0J220R	Electrolytic	22 µF 6.3V
C894	YWSK1C105KRA	Electrolytic	1 µF 16V
C895,896	F1H1H101A004	Ceramic	100 pF
C1029	MCUV1E104ZFV	Ceramic	0.1 µF
C1030	F1H1H101A004	Ceramic	100 pF
C1102	MCUV1E104ZFV	Ceramic	0.1 µF
C1500	EEVHB0J101P	Electrolytic	100 µF 6.3V
L101	YWELJFC4R7MF	Coil	4.7 µH
L106	ELJFCR33MF	Coil	0.33 µH
L107	ELJFC1R0MF	Coil	1 µH
L110	ELJFCR22MF	Coil	0.22 µH
L111	ELJFCR47MF	Coil	0.47 µH
L200,203	ELJFC8R2MF	Coil	8.2 µH
L207,211	ELJFC8R2MF	Coil	8.2 µH
L216	ELJFC8R2MF	Coil	8.2 µH
L400	YWCD54100	Coil	10 µH
L401	YWELJFC4R7MF	Coil	4.7 µH
L402	YWCD54100	Coil	10 µH
L403,406	YWELJFC4R7MF	Coil	4.7 µH
L407	YWELJSC330KF	Coil	33 µH
L700	G1C100K00002	Coil	100 µH

REF. NO.	PART NO.	DESCRIPTION	
L701	CDR74B271MC	Coil	270 µH
L702	YWCD54100	Coil	10 µH
L703	CDR105B470LC	Coil	47 µH
L704	YWCD54100	Coil	10 µH
L705	YWCDR74470NC	Coil	47 µH
L706	YWCD54100	Coil	10 µH
L707	ELJFC8R2MF	Coil	8.2 µH
L708	YWCD54100	Coil	10 µH
L800,803	ELJFC8R2MF	Coil	8.2 µH
L805,806	ELJFC8R2MF	Coil	8.2 µH
L808	ELJFC8R2MF	Coil	8.2 µH
L809-813	ELJFC5R6MF	Coil	5.6 µH
L1002,1003	ELJFC2R2MF	Coil	2.2 µH
L1100	ELJFC2R2MF	Coil	2.2 µH
T700	YW6312JPS043	High Freq. Transformer	
SW400	YWSKQDPB	Push Switch	
X400	EFOS1205E5	Crystal Oscillator	
CF200 202	J0E9604B0002	Filter	
CF203-205	EIK4EW018T	Filter	
CF800	YWNL4532S4R4	Filter	
CN1	YW51756394	24-pin Connector	
CN2,4	K1KB20B00011	20-pin Connector	
CN5	K1KB14B00006	14-pin Connector	
CN8	YW31756386	6-pin Connector	
CN9	YW522052890	28-pin Connector	
CN11	K1KB06B00009	6-pin Connector	
CN12	YW41756390	10-pin Connector	
CN410,411	DF12B5050DPV	50-pin Connector	
CN412	DF12B5040DPV	40-pin Connector	
F1 ⚠	K5H122A00001	Current Fuse	1.2 A
TP100,101	YWRCT2125TPV	Test-pin	
TP200-214	YWRCT2125TPV	Test-pin	
TP400-403	YWRCT2125TPV	Test-pin	
TP801-813	YWRCT2125TPV	Test-pin	

DIGITAL BOARD

PCB2 (RTL)	YWP522CEKY1A	Printed Circuit Board Assy
IC1	C1AB00000179	IC
IC2	YWTC7S08FUL	IC
IC3	YWTC7S04FUL	IC
IC4	YWTC7SU04FUL	IC
IC6	YWMB40950	IC
IC7	YWVY21008	IC
IC9	YWTC7SU04FUL	IC
IC10	C0JBAA000102	IC
IC13	YWMB40950	IC
IC14	YWTC7S66FUL	IC
IC15	F432532APGF	Custom IC
IC16,18	C0JBAA000102	IC
Q1	B1ADCF000012	Transistor
Q2,3	B1CBCE000002	FET

REF. NO.	PART NO.	DESCRIPTION	
Q5	B1ABCF000059	Transistor	
Q6-8	B1ABAC000008	Transistor	
Q9,10	B1ADCF000039	Transistor	
Q11-13	YWXP0460100L	Transistor	
Q14	B1ADCF000039	Transistor	
Q15,16	YWXP0460100L	Transistor	
Q18	B1CBCE000002	FET	
D1,2	YWHVU359TRF	Diode	
D4-7	YWHVU359TRF	Diode	
R1,2	D0YBR0000007	Carbon	0 ohm 1/16W
R5	D0YBR0000007	Carbon	0 ohm 1/16W
R7	YWR0816P512D	Metal	5.1K ohms 1/16W
R8	YWR0816P103D	Metal	10K ohms 1/16W
R10	D0GB102JA001	Carbon	1K ohms 1/16W
R12	ERJ3GEYJ752V	Carbon	7.5K ohms 1/16W
R13	ERJ3GEYJ303V	Carbon	30K ohms 1/16W
R14,15	D0GB102JA001	Carbon	1K ohms 1/16W
R16	ERJ3GEYJ684V	Carbon	680K ohms 1/16W
R18	ERJ3GEYJ151V	Carbon	150 ohms 1/16W
R19	D0GB102JA001	Carbon	1K ohms 1/16W
R20	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R21	ERJ3GEYJ821V	Carbon	820 ohms 1/16W
R22	ERJ3GEYJ182V	Carbon	1.8K ohms 1/16W
R23	D0GB102JA001	Carbon	1K ohms 1/16W
R24	ERJ3GEYJ912V	Carbon	9.1K ohms 1/16W
R25	ERJ3GEYJ560V	Carbon	56 ohms 1/16W
R26	ERJ3GEYJ512V	Carbon	5.1K ohms 1/16W
R27	D0GB102JA001	Carbon	1K ohms 1/16W
R28	ERJ3GEYJ561V	Carbon	560 ohms 1/16W
R29	D0GB102JA001	Carbon	1K ohms 1/16W
R30	ERJ3GEYJ223V	Carbon	22K ohms 1/16W
R31	ERJ3GEYJ272V	Carbon	2.7K ohms 1/16W
R32,35	D0GB103JA001	Carbon	10K ohms 1/16W
R36	ERJ3GEYJ105V	Carbon	1M ohms 1/16W
R37	ERJ3GEYJ471V	Carbon	470 ohms 1/16W
R39	D0YBR0000007	Carbon	0 ohm 1/16W
R40,41	D0GB103JA001	Carbon	10K ohms 1/16W
R44	ERJ3GEYJ752V	Carbon	7.5K ohms 1/16W
R48	ERJ3GEYJ105V	Carbon	1M ohms 1/16W
R54,56	D0YBR0000007	Carbon	0 ohm 1/16W
R60	D0YBR0000007	Carbon	0 ohm 1/16W
R61,62	D0GB101JA001	Carbon	100 ohms 1/16W
R64	D0GB101JA001	Carbon	100 ohms 1/16W
R68	D0GB104JA001	Carbon	100K ohms 1/16W
R70	D0YBR0000007	Carbon	0 ohm 1/16W
R98	YWR0816P682D	Metal	6.8K ohms 1/16W
R99	YWR0816P273D	Metal	27K ohms 1/16W
R101,117	D0GB102JA001	Carbon	1K ohms 1/16W
R125	D0GB102JA001	Carbon	1K ohms 1/16W
R126,127	ERJ3GEYJ273V	Carbon	27K ohms 1/16W
R129	ERJ3GEYJ273V	Carbon	27K ohms 1/16W
R137	D0GB103JA001	Carbon	10K ohms 1/16W
R138	ERJ3GEYJ431	Carbon	430 ohms 1/16W
R139	ERJ3GEYJ273V	Carbon	27K ohms 1/16W
R140	D0GB103JA001	Carbon	10K ohms 1/16W

REF. NO.	PART NO.	DESCRIPTION	
R142,143	D0YBR0000007	Carbon	0 ohm 1/16W
R144	D0GB101JA001	Carbon	100 ohms 1/16W
R146	ERJ3GEYJ682V	Carbon	6.8K ohms 1/16W
R147	ERJ3GEYJ105V	Carbon	1M ohms 1/16W
R149	D0GB102JA001	Carbon	1K ohms 1/16W
R151	D0GB101JA001	Carbon	100 ohms 1/16W
R152	D0YBR0000007	Carbon	0 ohm 1/16W
R158,159	D0GB103JA001	Carbon	10K ohms 1/16W
R167	ERJ3GEYJ100V	Carbon	10 ohms 1/16W
R174	D0YBR0000007	Carbon	0 ohm 1/16W
R176	D0GB102JA001	Carbon	1K ohms 1/16W
R178,186	D0YBR0000007	Carbon	0 ohm 1/16W
R187	ERJ3GEYJ472V	Carbon	4.7K ohms 1/16W
R190	ERJ3GEYJ105V	Carbon	1M ohms 1/16W
R191	ERJ3GEYJ241	Carbon	240 ohms 1/16W
R192	ERJ3GEYJ100V	Carbon	10 ohms 1/16W
R193	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R194	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R195	ERJ3GEYJ241	Carbon	240 ohms 1/16W
R196	ERJ3GEYJ100V	Carbon	10 ohms 1/16W
R197	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R198	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R199	ERJ3GEYJ241	Carbon	240 ohms 1/16W
R200	ERJ3GEYJ100V	Carbon	10 ohms 1/16W
R201	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R202	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R206,207	D0GB103JA001	Carbon	10K ohms 1/16W
R208	D0GB222JA001	Carbon	2.2K ohms 1/16W
R212	D0YBR0000007	Carbon	0 ohm 1/16W
R214	D0GB101JA001	Carbon	100 ohms 1/16W
R215	ERJ3GEYJ470V	Carbon	47 ohms 1/16W
R224	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R226	ERJ3GEYJ241	Carbon	240 ohms 1/16W
R227	ERJ3GEYJ100V	Carbon	10 ohms 1/16W
R229	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R231	ERJ3GEYJ750V	Carbon	75 ohms 1/16W
R233	ERJ3GEYJ241	Carbon	240 ohms 1/16W
R234	ERJ3GEYJ100V	Carbon	10 ohms 1/16W
R236	ERJ3GEYJ332V	Carbon	3.3K ohms 1/16W
R239	D0GB104JA001	Carbon	100K ohms 1/16W
R242	D0GB103JA001	Carbon	10K ohms 1/16W
R246	ERJ3GEYJ182V	Carbon	1.8K ohms 1/16W
R247	ERJ3GEYJ153V	Carbon	15K ohms 1/16W
R248	D0GB102JA001	Carbon	1K ohms 1/16W
R252	D0YDR0000013	Carbon	0OHM 1/10W
C1	MCUV1E104ZFV	Ceramic	0.1 µF
C2	F1H1H150A004	Ceramic	15 pF
C3	MCUV1E104ZFV	Ceramic	0.1 µF
C4,5	MCUV1E104ZFV	Ceramic	0.1 µF
C6	MCUV1H102KBV	Ceramic	1000 pF
C7,8	MCUV1E104ZFV	Ceramic	0.1 µF
C9,11	F1H1H472A022	Ceramic	4700 pF
C13	F1H1H5610005	Ceramic	560 pF
C14	MCUV1E104ZFV	Ceramic	0.1 µF
C15	F1H1H5610005	Ceramic	560 pF

REF. NO.	PART NO.	DESCRIPTION	
C17	MCUV1E104ZFV	Ceramic	0.1 µF
C18-21	MCUV1E104ZFV	Ceramic	0.1 µF
C22	F1H1A105A004	Ceramic	1 µF
C23,25	MCUV1E104ZFV	Ceramic	0.1 µF
C26	YW5X103K2VT	Ceramic	0.01 µF
C27-29	MCUV1E104ZFV	Ceramic	0.1 µF
C30	F1H1H360A004	Ceramic	36 pF
C31	YW5X103K2VT	Ceramic	0.01 µF
C32	F1H1H390A004	Ceramic	39 pF
C33,34	F1H1H471A650	Ceramic	470 pF
C35-38	MCUV1E104ZFV	Ceramic	0.1 µF
C39	MCUV1H102KBV	Ceramic	1000 pF
C40,41	MCUV1E104ZFV	Ceramic	0.1 µF
C43-46	MCUV1E104ZFV	Ceramic	0.1 µF
C47	YW5X103K2VT	Ceramic	0.01 µF
C48,49	MCUV1E104ZFV	Ceramic	0.1 µF
C50	EEVHP1C100R	Electrolytic	10 µF 16V
C51	SK31A106KRB	Electrolytic	10 µF 10V
C52	YWSK41C106KB	Tantalum	10 µF 16V
C54	EEVHB0J101P	Electrolytic	100 µF 6.3V
C55-57	SK31A106KRB	Electrolytic	10 µF 10V
C58	EEVHB0J101P	Electrolytic	100 µF 6.3V
C59,60	SK31A106KRB	Electrolytic	10 µF 10V
C61	YWSK41C106KB	Tantalum	10 µF 16V
C64-69	SK31A106KRB	Electrolytic	10 µF 10V
C70,71	YWSK41C106KB	Tantalum	10 µF 16V
C72	F3F1C225A005	Electrolytic	2.2 µF 16V
C73-76	MCUV1E104ZFV	Ceramic	0.1 µF
C79	YW5X103K2VT	Ceramic	0.01 µF
C80	F3F1C225A005	Electrolytic	2.2 µF 16V
C81	YWSK41C106KB	Tantalum	10 µF 16V
C82,83	MCUV1E104ZFV	Ceramic	0.1 µF
C84-87	SK31A106KRB	Electrolytic	10 µF 10V
C90	MCUV1E104ZFV	Ceramic	0.1 µF
C94,95	F1H1H6R00003	Ceramic	6 pF
L2-4	YWELJFC4R7MF	Coil	4.7 µH
L6	EIC4EJ011E	Coil	
X1	YWDX28R375A	Crystal Oscillator	
X2	YWDX17R734A	Crystal Oscillator	
CF1	YWNL4532S4R4	Filter	
CN1,2	DF12B50DS05V	50-pin Connector	
CN3	DF12B40DS05V	40-pin Connector	
TP1	YWRCT2125TPV	Test-pin	

REF. NO.	PART NO.	DESCRIPTION	
FRONT BOARD			
PCB3 (RTL)	YWP522CEKB1A	Printed Circuit Board Assy	
IC1	MC74HC541AF	IC	
IC2	C0JBAD000067	IC	
Q1-11	B1GBCFNA0004	Transistor	
Q12	DTC114YUAT06	Transistor	
D1,2	LN277RPX	LED	
D3,4	B0ADCJ000008	Diode	
D5-7	YWDA114	Diode	
D8,9	B0ADCJ000008	Diode	
D10	YWERB83004	Diode	
R1-11	D0GB103JA001	Carbon	10K ohms 1/16W
R13,14	D0GB101JA001	Carbon	100 ohms 1/16W
VR1-3	YWK11K113B20	Variable Resistor	
C1	YWSK41A476MC	Tantalum	47µF 10V
C2	SK31A106KRB	Electrolytic	10µF 10V
C3,4	F1H1H101A004	Ceramic	100 pF
C5	MCUV1E104ZFV	Ceramic	0.1 µF
L1	ELJFC8R2MF	Coil	8.2 µH
L2,3	G1C2N2K00002	Coil	2.2 µH
L4	YFF3216A2R2K	Coil	2.2 µH
SW1,2	YWATE1E2F410	Toggle Switch	
SW3-5	YWATE1D2F410	Toggle Switch	
SW6-9	YWSKHHDH	Tact Switch	
SW10	YWSDDJA1A1	Seesaw Switch	
CN2	YW51746434	24-pin Connector	
CN3	YW51746430	20-pin Connector	
CN4	YW31746436	6-pin Connector	
E2	YWLH512	LED Spacer	
REAR BOARD			
PCB4 (RTL)	YWP522CEKC1A	Printed Circuit Board Assy	
R1,3	ERDS2TJ750	Carbon	75 ohms 1/4W
R5,6	ERDS2TJ750	Carbon	75 ohms 1/4W
C4	ECQV1H104JM	Plastic	0.1 µF 50V
L1	J0JKB0000004	Coil	
SW1	YWSSS222AN	Slide Switch	
CN1	YW41746430	10-pin Connector	
CN2	YW51746430	20-pin Connector	
CN3	YW41746434	14-pin Connector	
CN4	YW1746356	6-pin Connector	
ACCESSORY PARTS / PACKAGING PARTS			
M61 ⚠	V8QA5442AN	Operating Instructions	
M62	PE26X40C05B	Polyethylene Bag	
M63	PE35X50C05B	Polyethylene Bag	
M65	V9CA4199AN	Packaging Assy	

REF. NO.	PART NO.	DESCRIPTION
	3CCD COLOUR CAMERA HEAD GP-US522HAE / GP-US532HAE	
	MISCELLANEOUS	
M1	YWV5GA0148A4	Cap
M2	YWPS522HEU01	Head Optical Assy for GP-US522HAE
	YWPS532HEU01	Head Optical Assy for GP-US532HAE
M4	YWV2HA2118A4	Shield Parts
M5	YWV2SA4465A4	Mounting Angle
M6	YWUS211B06	Washer
M7	YWUS211B05L	Nut
M8	YWV5EA2257A2	Cover
M9	YWV2TA1036A3	Mounting Bracket
M10 ⚠	V7QA5492A4	Main Label for GP-US522HAE
	V7QA5494A4	Main Label for GP-US522HAE
	REAR BOARD	
PCB1 (RTL)	P52AHPKZ1A	Printed Circuit Board Assy
IC1	YWBR93LC46F	IC
IC2	C0JBAA000097	IC
R1	ERJ6GEYJ103V	Carbon 10K ohms 1/10W
R2	YW2116620JT	Carbon 62 ohms 1/10W
R3	ERJ6GEYJ103V	Carbon 10K ohms 1/10W
CN1	YWUS344B01	Connector

REF. NO.	PART NO.	DESCRIPTION
	MOTHER BOARD	
PCB2 (RTL)	YWP522HEKY2A	Printed Circuit Board Assy for GP-US522HAE
	YWP532HEKY2A	Printed Circuit Board Assy for GP-US532HAE
IC1	C0JBAB000187	IC
IC2	C0JBAB000175	IC
IC3	YWTC7W04FUL	IC
Q101,201	B1ABCF000060	Transistor
Q301	B1ABCF000060	Transistor
D1 (R10)	YW1SS400TE61	Diode
D101,201	YWDA114	Diode for GP-US532HAE
D301	YWDA114	Diode for GP-US532HAE
R1	YWR0816P221D	Metal 220 ohms 1/16W
R2,3	D0YBR0000007	Carbon 0 ohm 1/16W
R6-9	ERJ3GEYJ620V	Carbon 62 ohms 1/16W
R11-14	D0GB103JA001	Carbon 10K ohms 1/16W
R15	ERJ3GEYJ4R7V	Carbon 4.7 ohms 1/16W
R16	D0YBR0000007	Carbon 0 ohm 1/16W for GP-US522HAE
	ERJ3GEYJ302V	Carbon 3K ohms 1/16W for GP-US532HAE
R17	ERJ3GEYJ273V	Carbon 27K ohms 1/16W for GP-US522HAE
	ERJ3GEYJ682V	Carbon 6.8K ohms 1/16W for GP-US532HAE
R18	ERJ3GEYJ183V	Carbon 18K ohms 1/16W for GP-US522HAE
	ERJ3GEYJ363V	Carbon 36K ohms 1/16W for GP-US532HAE
R19-23	D0GB103JA001	Carbon 10K ohms 1/16W
R24	D0YBR0000007	Carbon 0 ohm 1/16W
R101,102	ERJ3GEYJ270	Carbon 27 ohms 1/6W
R103	ERJ3GEYJ105V	Carbon 1M ohms 1/16W
R104	ERJ3GEYJ333V	Carbon 33K ohms 1/16W for GP-US532HAE
R105	ERJ3GEYJ391V	Carbon 390 ohms 1/16W for GP-US522HAE
	ERJ3GEYJ821V	Carbon 820 ohms 1/16W for GP-US532HAE
R106	D0GB101JA001	Carbon 100 ohms 1/16W
R107	ERJ3GEYJ752V	Carbon 7.5K ohms 1/16W for GP-US522HAE
	ERJ3GEYJ272V	Carbon 2.7K ohms 1/16W for GP-US532HAE
R201,202	ERJ3GEYJ270	Carbon 27 ohms 1/6W
R203	ERJ3GEYJ105V	Carbon 1M ohms 1/16W
R204	ERJ3GEYJ333V	Carbon 33K ohms 1/16W for GP-US532HAE
R206	D0GB101JA001	Carbon 100 ohms 1/16W
R207	ERJ3GEYJ752V	Carbon 7.5K ohms 1/16W for GP-US522HAE
	ERJ3GEYJ272V	Carbon 2.7K ohms 1/16W for GP-US532HAE

REF. NO.	PART NO.	DESCRIPTION	
R301,302	ERJ3GEYJ270	Carbon	27 ohms 1/16W
R303	ERJ3GEYJ105V	Carbon	1M ohms 1/16W
R304	ERJ3GEYJ333V	Carbon for GP-US532HAE	33K ohms 1/16W
R305	ERJ3GEYJ391V	Carbon for GP-US522HAE	390 ohms 1/16W
	ERJ3GEYJ821V	Carbon for GP-US532HAE	820 ohms 1/16W
R306	D0GB101JA001	Carbon	100 ohms 1/16W
R307	ERJ3GEYJ752V	Carbon for GP-US522HAE	7.5K ohms 1/16W
	ERJ3GEYJ272V	Carbon for GP-US532HAE	2.7K ohms 1/16W
VR101,201	EVM7JSW30B15	Semi Fixed Resistor for GP-US532HAE	100K ohms
VR301	EVM7JSW30B15	Semi Fixed Resistor for GP-US532HAE	100K ohms
C2	MCUV1E104ZFV	Ceramic	0.1 µF
C3	F1H1H680A004	Ceramic	68 pF
C4	YWSK41C686MD	Tantalum	68 µF 16V
C6,101	F1J1H104A024	Ceramic	0.1 µF
C102	F1J1H104A024	Ceramic for GP-US532HAE	0.1 µF
C103	YW400225FZT	Ceramic	2.2 µF
C104	SK31V225MRB	Tantalum	2.2 µF 35V
C105	SK31E335MRB	Tantalum	3.3 µF 25V
C106	YWSK40J686MC	Tantalum	68 µF 6.3V
C107	YWSK41E225MA	Tantalum	2.2 µF 25V
C201	F1J1H104A024	Ceramic	0.1 µF
C202	F1J1H104A024	Ceramic for GP-US532HAE	0.1 µF
C203	YW400225FZT	Ceramic	2.2 µF
C204	SK31V225MRB	Tantalum	2.2 µF 35V
C205	SK31E335MRB	Tantalum	3.3 µF 25V
C207	YWSK41E225MA	Tantalum	2.2 µF 25V
C301	F1J1H104A024	Ceramic	0.1 µF
C302	F1J1H104A024	Ceramic for GP-US532HAE	0.1 µF
C303	YW400225FZT	Ceramic	2.2 µF
C304	SK31V225MRB	Tantalum	2.2 µF 35V
C305	SK31E335MRB	Tantalum	3.3 µF 25V
C306	YWSK40J686MC	Tantalum	68 µF 6.3V
C307	YWSK41E225MA	Tantalum	2.2 µF 25V
L1	ELJFC2R2MF	Coil	2.2 µH
CN1	YW529762492	24-pin Connector	
CN101,201	K1KB20A00063	20-pin Connector	
CN301	K1KB20A00063	20-pin Connector	
TP101,201	YWRCT2125TPV	Test-pin	
TP301	YWRCT2125TPV	Test-pin	

REF. NO.	PART NO.	DESCRIPTION
ACCESSORY PARTS / PACKAGING PARTS		
M45 ⚠	V8QA5443AN	Operating Instructions
M46	YWT10X10C03	Polyethylene Bag
M47	YWT10X35C03	Polyethylene Bag
M49	V9CA4195AN	Packaging Assy for GP-US522HAE
	V9CA4197AN	Packaging Assy for GP-US532HAE

Printed in Japan
C-760 Ⓝ 5, 7, 23